

The Canadian Medical Association Journal

VOL. IV.

NOVEMBER, 1914

No. 11

I—INTESTINAL STASIS

BY MAX EINHORN, M.D.

Professor of Medicine at the New York Postgraduate Medical School

THE term "intestinal stasis" originated with Sir Arbuthnot Lane. The chronic variety of intestinal stasis this eminent surgeon defines as follows: "Such an abnormal delay in the passage of the intestinal contents through a portion or portions of the gastrointestinal tract as results in the absorption into circulation of a greater quantity of toxic or poisonous materials than can be treated effectually by the organs whose function it is to convert them into products as innocuous as possible to the tissues of the body."

The main cause for chronic intestinal stasis Lane attributes to visceroptosis and the formation of kinks. Bainbridge, one of Lane's most ardent followers, says, "the natural outcome of this kinking of any portion of the drainage tube is obstruction to the lumen of the intestine at the point of the kink with 'puddling' in the dependent portions, damming back and infection of the contents, and general slowing of the drainage of the canal."

The symptoms are, briefly: headaches, nausea with vomiting, anorexia, loss of weight, cold extremities, mental apathy, constipation, bad taste in mouth, abdominal distention, muscular pains. The diagnosis is based on the discovery of existing visceroptosis or intestinal kinks (which are best demonstrated by the *x*-rays) in conjunction with a delay in the intestinal prochoresis. For the recognition of the latter, Paterson uses the charcoal test. He gives two teaspoonsfuls of charcoal and gauges the time of its appearance in the stool. If the charcoal does not appear within sixty

Six papers contributed to the discussion before the combined sections of the Canadian Medical Association, St. John, N.B., July 9th, 1914.

hours, there is intestinal stasis. The treatment consists, in mild cases, in an appropriate abdominal support and the administration of liquid paraffin, and in severe cases, in ileocolostomy (short-circuiting the bowel) or colectomy.

This, in short, is a brief résumé of Sir Arbuthnot Lane's teaching.

This subject is not a mere theoretical one but presents issues of great practical importance, dealing sometimes with situations endangering life. I feel, therefore, forced to lay my views, which are quite contrary to Sir Arbuthnot Lane's, before you for discussion. I would like to mention first that the idea of visceroptosis giving rise to intestinal angulations (designated as "kinks" by Lane) and the formation of partial stenoses with delayed prochoresis originated with F. Glénard. Whatever credit be due for this conception, it belongs to Glénard and not to Lane. The second point, that of intestinal stasis leading to the absorption of poisons within the intestine or auto-intoxication, is a theory which had been created long ago, principally by French clinicians, Bouchard, Combe, and others. This theory has been made by Lane and his disciples the foundation for their plan of treatment. The digestive canal is called a "drainage tube" and compared to a sewer system, in which any clogging must cause disaster.

For our own satisfaction let me say right here, that our organism is not so poor an engine as it is depicted by the adherents of the "stasis" theory. If our body is resourceful, as you all well know, in adequately fighting enemies that it has never before encountered,—how much more must we expect from it for everyday defenses. It is surely well fitted to debar the entrance of harmful digestive products through the intestinal wall, for this is a continuous happening.

Unless there is a real mechanical obstruction or some substantial organic lesion interfering with the intestinal current, a temporary delay or stasis of the contents may not mean much. At times this delayed prochoresis may serve to make absorption more complete, and is encountered in instances of insufficient nutrition.

Let me now say a word with regard to the auto-intoxication theory, as far as it concerns intestinal stasis or habitual constipation (for this is only another name for it). Constipation does not cause auto-intoxication. For, occasionally, a patient may have no bowel movement for several days and present no abnormal symptoms whatever. The symptoms frequently associated with chronic

constipation may be ascribed to nervous disturbances, and not to auto-intoxication. Reassurance and nerve sedatives will often do more good than drastic measures.

We now come to the last point, namely, that of treatment. In mild cases Lane, following Glénard, recommends an appropriate abdominal supporting bandage. To this we fully agree. In the severe type Lane recommends operative measures, namely, ileocolostomy or colectomy. With this radical plan of treatment most clinicians and some of the eminent surgeons do not agree.

If we did not need the colon, which is an organ of considerable length, we would not have it, or it would show decided signs of degeneration,—but this is not the case. Ileocolostomy or colectomy is justifiable in cases of cancer or stricture of the bowel, but not in functional disturbances. Albu has shown that while it is possible to exist without a colon, an individual deprived of this organ is subject to great dangers and easily succumbs to any intestinal disease, with which an ordinary individual can cope without difficulty.

Besides, there are the dangers of the operation and ultimately the uncertainty of a cure after exclusion or removal of the colon.

II—INTESTINAL STASIS

BY ALEXANDER MCPHEDRAN, M.D.

IT is generally conceded that intestinal stasis is of much importance, but, like all new theories, if supported with enthusiasm it is liable to carry us off our feet and lead to surgical means being resorted to in many cases in which they are not called for. This is shown in the history of ptosis of the abdominal organs in general, gastro-enterostomy, and, most strikingly of all, oöphorectomy, and, I venture to say, also in regard to diseases of the appendix. It is the duty of physicians to steady this tendency and restrict operation to those cases in which due relief cannot be obtained by well-directed treatment. The performance of this duty is only too often a thankless task, and never spectacular.

In the small intestine stasis occurs usually in the lower part of the ileum, less frequently in the duodenum; in the colon it may occur at any part. Stasis may be due to (1) lack of vigour of peristalsis and (2) organic abnormalities, whether (a) from abnormal

development, or (b) adhesions arising from previous inflammations. Anatomical abnormalities are not uncommon, yet the infrequency of stasis in early life goes to show that they are not frequent causes. Obstruction from displacement causing "kinking," and constriction from adhesions due to inflammation are much more common causes. Organic obstruction of slight degree is frequent, but is only effective in causing stasis after the bowel has lost its vigour of peristaltic power, the restoration of which will overcome the stasis and relieve the symptoms.

Loss of vigour in the action of the bowel may be due to retention of contents arising from want of regularity of evacuation; this may lead in time to loss of tone and consequent stasis.

General debility from illness, or debility from any cause increases the loss of tone and may of itself, especially with irregular habit, lead to stasis. In such cases the occurrence of stasis is often determined by the ptosis which so often results from weakness of the abdominal wall support and the loss of fat within the abdomen.

The symptoms arise from a variety of causes, the chief being absorption of toxic substances from the intestinal contents, chronic inflammation at the seat of obstruction, and reflex disturbances of other organs, chiefly the stomach. Any of these causes may be absent in any case; if all are present any one may be of most importance and overshadow the others. Reflex disturbances, especially of the stomach, are probably the most common and of them the chief complaint is made. Hyperacidity is frequent; not rarely the symptoms are so marked as to render it impossible to exclude gastric and duodenal ulcer, especially the later. It is in such cases that surgical means give the most striking results. In chronic inflammations, of the appendix most often, operation is also usually required. From absorption of toxic products the symptoms vary greatly, as they do in all cases of chronic intoxication. In some there is little disturbance beyond some irregularity of the bowel, usually constipation; in others there are chronic infections of various kinds which have been attributed to the stasis. How far this latter view is correct has still to be shown; that it is the active cause of symptoms in some cases there can be little doubt. The fact that so many cases show few if any symptoms goes to prove that there are necessary contributing causes other than the stasis.

In the diagnosis the chief reliance must be placed on the use of the Roentgen rays, but as usually practised the results are not satisfactory. The chief aid is obtained by the use of the fluoro-

scope. By its use the peristalsis and the movement of the contents of the bowel can be observed so frequently as to make the observation almost continuous. Plates taken from time to time are useful as records, and also to check the screen observations.

TREATMENT: In view of the fact that in all cases there is marked loss of tone of the bowel, treatment should aim at restoring the peristaltic power by the use of stimulating laxatives, by the giving of food containing much residue, such as green vegetables, and by massage of the abdomen. The bowel should be moved every day. Perseverance in this course under favourable circumstances will improve most cases and quite relieve many, even when there is some degree of impediment from kinking, from displacement, or even some degree of obstruction from adventitious bands and adhesions. Such treatment takes time and usually much care and supervision.

Two classes of cases will require surgical aid—(1) Those with organic obstruction which cannot be overcome by the above means, and (2) those who cannot secure the necessary care and supervision, or cannot take the necessary time to effect the needed relief. In most cases, however, the time required probably will not in the end be greater than that necessary for relief by surgical means.

III—INTESTINAL STASIS

By A. PRIMROSE, M.B., C.M. (EDIN.), M.R.C.S. (ENG.)

*Associate Professor of Clinical Surgery, University of Toronto,
Surgeon to the Toronto General Hospital*

AT the present time a great deal of attention is being devoted to the question of the relief of intestinal stasis by surgical means. The problems involved in the study of the effects produced by delay in the passage of intestinal contents and of absorption therefrom are complex and difficult. We are greatly indebted to Sir Arbuthnot Lane for his work in this field. He has stimulated much research and has inspired the profession in general with determined effort to relieve manifold troubles which he has shown may be due to stasis in the intestine and which may be ameliorated or cured

by operation. His accomplishment in this regard will remain an enduring monument to his genius and skill.

Since Sir Arbuthnot Lane began to publish his views, many other surgeons have carried out the treatment which he has advocated and there is now abundant evidence to prove that such operations as ileo-sigmoidostomy or resection of the large bowel may be followed by remarkable results in effecting the cure of disease. We must admit at the outset we cannot follow Lane in the extreme views he holds when he describes intestinal stasis as the sole factor in the etiology of many diseases. Nor are we convinced that he is right in his conclusions regarding either the manner in which stasis is the cause of disease or the method by which cure is effected when such an operation as colectomy is performed. These are questions which are receiving much attention both from the laboratory and the clinical standpoint and in course of time from both these sources we shall have the solution of many vexed problems. The impartial critic must admit that the hypotheses at present advanced, to explain cause and effect, varied and contradictory as they sometimes are, cannot be accepted as true and final until more convincing proof is forthcoming.

We surgeons are sometimes twitted with the insinuation that unnecessary operations are occasionally undertaken and carried out. On the other hand, in the past, one has had much more regret over, let us say, appendices which we had not taken out or which we had not had the opportunity of removing, than for any we had sacrificed. The tragedies in the experience of the surgeon are rather in those instances where operation had not been undertaken or where it had been postponed too long. Let me point out, too, that far more harm has been done by the careless employment of drugs, both by the physician and surgeon, than by the occasional removal of an appendix which might have been saved. The victims of such drugs as morphine, cocaine, alcohol, etc., are unfortunately numerous, whilst I am not aware that the removal of the appendix is fraught with any such disastrous results. The operations advocated by Lane are not to be undertaken lightly, they are serious and far reaching in their effects, but let us sift the evidence in the individual case and let us be careful not to withhold methods of treatment which may be necessary for the restoration of health, even if this should involve a serious operation. We must estimate the risk involved and the prospect of relief by operation in each case and give our advice accordingly.

One of the most convincing and far reaching criticisms of

Sir Arbuthnot Lane's work has been given us by Professor Adami. I think we shall all admit that his paper, published in the *British Medical Journal* last January, is an impartial review of the situation and is most logical in its conclusions. Professor Adami first summarises the "seventeen symptoms and nine diseases indirectly induced" which Lane has attributed to intestinal stasis. In the beginning of the paper Adami appears incredulous regarding Lane's conclusions, but as he enlarges on his subject he proceeds to prove from laboratory findings and clinical results that every one of Lane's symptoms and diseases may originate from intestinal stasis. In his summary we find the following statement: "While the symptoms and diseases enumerated by Sir Arbuthnot Lane may follow intestinal stasis, at least a large proportion of them may originate independently of such stasis." We find, therefore, that Professor Adami proves to one's satisfaction by logical argument that all these maladies may result from intestinal stasis although he does not agree with Sir Arbuthnot Lane as to the way in which this is brought about. On the other hand one must admit that the conclusion arrived at by Adami, as to the frequency in which this factor is the active one in the production of these diseases, is entirely at variance with Lane's views. Lane states his creed in no uncertain terms; for example, in one of his papers we find the following statement: "I believe that no one can become affected by tuberculous disease or by rheumatoid arthritis unless the resisting power of the individual to the entry of organisms has been depreciated by auto-intoxication consequent on the presence of chronic intestinal stasis." Whilst, therefore, Lane insists that stasis is the only cause of many diseases, Adami on the contrary considers it only one of the possible causes. One can readily believe that the resistance of the individual may be so lowered by the toxic effect of stasis that he falls a victim to, let us say, tuberculosis. Again it may follow that if stasis be relieved and the nutrition and general resistance of the individual be increased thereby, we may effect a cure of the specific tuberculosis trouble. Where we cannot follow Lane is in his assumption that stasis is the sole cause and that its relief is the essential part of the cure in all cases.

Sir Arbuthnot Lane's work has stimulated much investigation and much discussion. Throughout the surgical world many men have operated by Lane's method for the relief of stasis which has been proved to be present and where it appeared to be the cause of specific symptoms and disease. Many cases have been sub-

mitted to operation and with varying results. That phase of the subject has been reached when the individual practitioner (physician or surgeon) is putting on record his own clinical experience, whilst from the laboratory and the autopsy room we have data forthcoming which will shed light on the vexed problems involved. I fancy my part in the present programme is fulfilled when I narrate my experience and my observations in cases of this type coming under my care, in whom I have carried out various surgical procedures for their relief.

There are two main causes of stasis. The one is due to an organic lesion, the other is functional. In other words a mechanical obstruction may be present or, on the other hand, there may be delay in the passage of bowel contents solely because of enfeebled activity of the peristaltic movement or spasm of muscle causing obstruction by constriction of the bowel. These two varieties of stasis have been called the mechanical and the "simple static variety."

The most common mechanical cause of stasis is found in bands or adhesions which constrict or kink the intestine and thus render difficult the passage of contents along the lumen of the gut or, at times, may cause complete obstruction. These bands and adhesions may be found at any portion of the intestinal tract but are most common near the lower end of the ileum, where the so-called "Lane's kink" is frequently present. More or less acute kinking may be found at the duodeno-jejunal juncture. In connexion with the large intestine bands of more or less membranous structures may be formed. The ascending colon may be constricted by such agencies or, again, an acute kink may be found at the hepatic or the splenic flexure of the colon. The lower end of the sigmoid flexure may also be similarly affected.

The most common seat of trouble is in the ileo-cæcal region, and here a considerable variety of conditions deserve attention. First we have the ileo-cæcal valve which in the vast majority of cases is efficient and prevents the regurgitation of cæcal contents back into the ileum. Occasionally but, I believe, rarely this valve is not efficient, and under such circumstances material may be forced back into the ileum when the large bowel is actively contracting. The contraction of the circular band of muscle fibre in the terminal portion of the ileum, forming the so-called "ileo-cæcal sphincter" is another factor to be considered. Then we have the so-called Lane's kink of the ileum. This is produced by a firm band of fibrous tissue developed in the under aspect of the

mesentery, usually about two inches from the ileo-colic juncture. This band is resistant, inelastic and non-vascular, and fixes the ileum in such fashion as to cause it to become acutely kinked and at the same time rotated upon its longitudinal axis. The structure described as "the vascular membrane of Jackson" is also responsible for trouble in this locality. We need not now discuss its etiology, but we recognize that it may be the cause of serious trouble. Very often it exists as a thin vascular veil spreading over the cæcum and ascending colon. At times throughout this veil one finds at intervals strands of more or less dense fibrous tissue forming a series of strings or cords attached to the bowel. Or again it may be represented by a thick membranous structure binding down the colon and possible causing obstruction of the bowel by constriction. Lastly we have the vermiform appendix, which is frequently the seat of acute or chronic change and may contract firm and extensive adhesions to different structures in its neighbourhood.

LANE'S KINK OF THE ILEUM AND JACKSON'S MEMBRANE—FREQUENCY OF THEIR OCCURRENCE AS OBSERVED IN 155 CONSECUTIVE OPERATIONS FOR THE REMOVAL OF THE VERMIFORM APPENDIX, PERFORMED DURING 16 MONTHS ENDING JUNE 30TH, 1914.

	Males	Females	Acute	Chronic
155 cases distributed as follows.	52	103	71	84
Lane's kink of the ileum.	9	13	7	15
Jackson's pericolic membrane.	7	27	6	28

Lane's Kink of the Ileum

22 out of 155 patients operated upon possessed a Lane's kink, i.e., 14 per cent.

9 out of 52 males, i.e., 17·3 per cent. of the males exhibited a Lane's kink of the ileum.

13 out of 103 females, i.e., 12·7 per cent. of the females exhibited a Lane's kink of the ileum.

Average age of the males was 33·3 years, the youngest 14, the oldest 45 years.

Average age of the females was 32·5 years, the youngest 16, the oldest 46 years.

7 cases were acute, 15 chronic, i.e., 31·8 per cent. of the 22 cases were acute, 68·2 per cent. chronic.

Jackson's Pericolic Membrane

34 out of 155 patients operated upon possessed a Jackson's pericolic membrane, i.e., 22 per cent.

7 out of 52 males, i.e., 13·5 per cent. of the males exhibited a Jackson's pericolic membrane.

27 out of 103 females, i.e., 26·2 per cent. of the females exhibited a Jackson's pericolic membrane.

Average age of the males was 30·5 years, the youngest 8, the oldest 50 years.

Average age of the females was 31.5 years, the youngest 14, the oldest 66 years. 6 cases were acute, 28 chronic, i.e., 17.7 per cent. of the 34 cases were acute, 82.3 per cent. chronic.

Adhesions about the Appendix

In 98 out of 155 cases adhesions, more or less dense, existed about the appendix, i.e., 63.2 per cent.

Adventitious bands and adhesions may cause constriction or kinking of the bowel in any part of its length; the different flexures of the colon are prone to be thus affected. In addition to this there are a great many other possible causes of mechanical obstruction producing chronic stasis, such as new growth, chronic inflammatory thickenings in the wall of the bowel, specific infections, e.g., tuberculosis, etc.

When a patient presents himself with symptoms of intestinal stasis we search about for its cause which, if it be a mechanical one, is often not hard to find. The ileo-cæcal region is by far the most common seat of trouble. The history of the patient's symptoms, the physical examination, and the x-ray findings with the bismuth or barium meal or enema must all be considered in establishing a diagnosis. It is essential also that we should have routine examinations made of the blood, of the stomach contents and of the fæces, if we are to form an intelligent conception of the conditions present and of the effect of treatment.

When we attempt operative interference for the relief of stasis we are frequently at a loss to determine how much or how little should be undertaken. We find, for example, that in some patients the removal of an appendix which is the seat of chronic thickening with adhesions is all that is necessary. I might cite in illustration the case of a woman, forty-eight years of age, who had for long suffered from chronic ill health, lack of energy, and other symptoms we associate with toxæmia induced by intestinal stasis. She had some abdominal distress and obstinate constipation. At operation we found an appendix the seat of chronic change, and in addition a very marked Jackson's membrane spread over the cæcum. We merely removed the appendix and did nothing more. The patient enjoyed better health after the operation than she has done for years. On the other hand the very reverse of this case may be mentioned in which very extensive operative procedures had to be undertaken before relief was obtained. A girl, sixteen years of age, gave us a history that for eight years she had suffered from obstinate constipation, occasional nausea and vomiting with, at times, a considerable amount of pain. X-ray findings with bismuth meals showed

marked ileo-stasis, while bismuth enemata passed rapidly and without obstruction to the ileo-cæcal valve. We removed a chronic appendix and relieved a very marked kink in the ileum by dividing dense fibrous tissue which held it down. She was completely relieved of her symptoms but they gradually recurred and six weeks subsequently we had to operate again. One found that the kink had been reproduced and the fibrous band was as dense and unyielding as ever. The ileum was now cut across and an end-to-side anastomosis made with the sigmoid. Her symptoms were again relieved but she now began to suffer from the backing up of material from the point of anastomosis into the colon. After an interval of seven weeks, I again opened the abdomen and removed the greater part of the large bowel. She is now, I trust, permanently rid of her trouble. Her distressing symptoms have all disappeared and she has returned to her work suffering no discomfort. It is now seven months since the last operation. With more experience we may learn better when one should proceed at once to the major operation of colectomy. I must confess that in my experience the indications for complete ablation of the large bowel are not always clear, even when the abdomen is opened. In some cases where there is extensive trouble present a simple operation will effect a cure, whilst again, in the presence of apparently trivial conditions, we may have to proceed to the major operation of colectomy before we can obtain relief for our patients.

Occasionally symptoms attributable to stasis appear after an operation for removal of the appendix. Thus in one of my cases, a woman aged thirty, the appendix had been removed for acute infection with general peritonitis. She recovered, but for a year subsequently suffered all the typical symptoms which Lane has attributed to stasis. She had the poor circulation, the clammy hands, the lack of energy and the mental depression which are recognized as typical. The x-ray findings showed marked stasis in the cæcum and sigmoid. One found on opening the abdomen that coils of practically the entire small intestine were glued together by adhesions. These were soft and easily broken down but were nonvascular or nearly so. These adhesions were separated extensively; the small intestine from one end to the other was freed by manipulation with the occasional division and ligature of a stronger band of adhesion. I then short-circuited, placing the divided ileum, end to side, into the sigmoid. Paraffin was poured into the peritoneal cavity among the coils of small bowel and the abdomen was closed. She at once improved, the operation was

done nine months ago and a more grateful patient does not exist, as she is now enjoying complete health and has lost all her former trouble.

The persistence of symptoms after the removal of a diseased appendix is, I am confident, often due to the fact that a Lane's kink existed in addition to the appendix trouble and had been overlooked at the operation. We have had several instances where this has been observed. Thus in one woman, aged thirty-six, the appendix had been removed two years before, and subsequent to that operation she had persistent constipation and difficulty in getting the bowels to move until, when I saw her, complete obstruction made operation imperative. One found a Lane's kink causing acute angulation and obstruction of the ileum. After freeing this kink she got complete relief. One should make it a routine practice to look for a kink of the ileum whenever one is operating for appendicitis, either acute or chronic. One is surprised how often it is present and it is usually very easily dealt with.

The effect of intestinal stasis may be far reaching, and it is remarkable how distant organs may become involved in serious lesions as the result of trouble localized in the ileo-cæcal region. Thus when a kink is present in the ileum near the cæcum, or where in the absence of such a kink we simply have a diseased and adherent appendix, we frequently have associated gastric trouble, gall-bladder trouble, or trouble in the duodenum. Of late a considerable amount of attention has been paid to this fact in order to discover the explanation of the relationship. It is not our intention to enquire into the different theories which have been advanced, but we wish to record our experience as to the clinical demonstration of these facts. Not only does it appear that trouble in the region of the appendix may produce gastric or duodenal ulcer, cholecystitis, etc., but we are beginning to recognize that the relief of trouble in the appendix and lower ileum will often react beneficially, and may even produce a cure of the secondary trouble in stomach, duodenum or gall-bladder. A man came to me a short time ago with a typical history of duodenal ulcer. The character and time of the pain and other symptoms pointed to this. I operated for duodenal ulcer but was unable to satisfy myself that there was one. I found, however, an adherent chronic appendix and a very marked kink of the ileum. After relief of the trouble in the ileo-cæcal region he recovered and lost all his symptoms of duodenal ulcer. Quite recently I was asked by one of my col-

leagues to operate for what he had diagnosed as an early case of carcinoma of the stomach. The man was forty-five years of age, had lost twenty-two pounds in weight, had epigastric distress with frequent vomiting and pain. The gastric analysis showed almost a complete absence of hydrochloric acid, and the Oppler-Boas bacillus was present. On opening the abdomen I could find no evidence of gastric carcinoma, but I did find extensive trouble in the ileo-cæcal region. The appendix was extensively adherent and the seat of chronic thickening, and an acute kink existed in the ileum near by. These conditions in the ileo-cæcal region were relieved. Subsequently his gastric trouble entirely cleared up and apparently he now enjoys complete restoration of health.

Occasionally one finds conditions co-existing which demand a double operation such as gall-stones along with a diseased appendix. Here one should unquestionably, in my opinion, remove the gall-stones and take out the appendix. I have not the courage of conviction to do as I saw Sir Arbuthnot Lane do on one occasion at Guy's Hospital. He found some gall-stones present, but these he left and performed the operation of short-circuiting; closing the abdomen he stated that the gall-stones would now look after themselves.

The conclusions which I have arrived at as the result of my experience in the surgical treatment of intestinal stasis thus far may be summarized as follows:

1. Intestinal stasis may produce serious impairment of health. The manifestations of disease dependent upon this cause may present great variety.

2. There may be multiple lesions demanding our attention—the primary trouble is often in the ileo-cæcal region and secondary trouble may develop in the stomach, duodenum, etc. That secondary trouble may be an anatomical lesion, e. g., an ulcer, or it may be purely a functional disturbance without any gross lesion.

3. Where ill health, caused by intestinal stasis, resists ordinary medical treatment, then surgical intervention of suitable character should be undertaken.

IV—INTESTINAL STASIS

BY J. M. ELDER, M.D.

AT the outset it would seem that we should clearly understand what the term "intestinal stasis" means. Is there such a thing as "auto-intoxication" (Lane) or "sub-infection" (Adami) dependent upon undue stasis of the contents of the intestinal tract, and if there is, how far can surgical efforts overcome such a condition? I fear that the present attitude of surgeons, as a rule, is to regard the problem purely as one in mechanics. They seem to argue that the proper method of preventing "stasis" in any part of the digestive tract is to "short-circuit" that part, and thus send the freight onward by a more direct route, quite overlooking the *physiological* derangements which must follow upon such procedure.

Dr. Geddes has just demonstrated to us, in a most delightful manner, the development and anatomy of the colon. The Mayos, in a recent paper, have touched upon the same subject, and have evidently come to the same conclusions as Dr. Geddes has regarding colonic function. From the surgical standpoint these views may be briefly summarized thus: From the cæcum to the splenic flexure, the colon is an important part of the digestive mechanism, and from that part of the bowel, much absorption takes place. The splenic flexure, in man, is represented in some lower animals by a valve, and there is present, at times, a *reversed* peristalsis from that flexure back to the cæcum, in order that this absorption may be aided. Beyond the splenic flexure, but only *beyond*, the colon may fairly be considered as a fæcal reservoir—the "cess-pit" (Lane) for the body.

If we accept these views of the anatomy and physiology of the large bowel, how does it all bear upon the surgical problems? It is quite evident there are different forms of stasis, requiring different methods of treatment to correct, so that it is quite impossible that any one method can meet all cases.

I propose to cite briefly my own experience of these forms and simply to enumerate the cases I have met with which illustrate the treatment.

1. To overcome acute angulation of the splenic flexure of the colon, causing stasis in the proximal part of the colon and also delay in the ileal effluent from back-pressure upon the ileo-cæcal valve:

here a lateral anastomosis between the transverse colon and the upper part of the sigmoid loop is indicated, and is an operation of no difficulty. I have had five such cases, and all have been immediately and permanently benefitted.

2. To overcome stasis in the ileum due to extensive adhesions of the ileum to other parts, especially in the pelvis: in three cases I did an anastomosis between a free loop of the ileum and the transverse colon. One case, which was tubercular, died three months after operation. The other two were improved, but still complained of abdominal pains and distress.

3. In three cases ileo-sigmoidostomy (Lane) was done. Upon one of these cases—a case of tubercular peritonitis—Sir Arbuthnot Lane himself was good enough to operate at my clinic. So far as immediate results went, the recovery from operation left nothing to be desired; but the reports from the patient since his return home show that he is no better than many of these cases of tubercular peritonitis are after a simple laparotomy. In two other cases, I have carried out Lane's excellent technique, and implanted the ileum into the sigmoid. In both these cases the indication was to relieve a condition of severe ulcerative (even hæmorrhagic) colitis. Both have been benefitted, though in neither did we remove the diseased bowel. This, I think, will still require to be done before a cure should be looked for. I am firmly of opinion that if ileo-sigmoidostomy (Lane) is indicated, resection of the short-circuited part of the colon is also indicated, either then, or later, as the condition of the patient may permit.

4. Ileac stasis due to constriction of the ileum by a diseased appendix, which acted like a band. I have operated upon five of these cases, and they have all done well. These cases present a marked contrast, so far as my experience goes, to those cases in which the obstruction to the ileal effluent (to quote Lane) was due to "Jackson's membrane" or "Lane's kink." I have never seen any of these cases permanently improved by any operation which merely aimed at separating or removing these adhesions. My opinion is that they reform, and that the "last state of that man is worse than the first." Here, I think, Lane is justified in his radical views of treatment.

Just a word about the use of liquid paraffin in these cases, either before or after operation. I have never seen any case permanently benefitted by its use alone; but I am quite convinced that it is a very valuable post-operative agent, in the prevention of adhesions. Since its use, as a post-operative routine, I certainly have had fewer cases of acute obstruction.

As regards the use of the Curtis belt, which Lane advocates for all post-operative cases, I have not been able to get any of my patients to wear one. I can personally testify that the belt is comfortable and easily worn, and in any case of general splanchnoptosis should be very valuable, and possibly, as Lane believes, its use would prevent the necessity of many of these short-circuiting operations.

V—INTESTINAL STASIS

By F. N. G. STARR, M.B.

Associate Professor of Clinical Surgery, University of Toronto

“ONE of the oldest Egyptian treatises on medicine in existence, dating from the fourteenth century B.C., gives directions for the preparation of enemata, and they were in common use among the Egyptians: Herodotus, in 443 B.C., wrote of the Egyptians: ‘They clear themselves on three consecutive days in each month, seeking after health by emetics and enemata, for they think that all disease comes to man from his food.’ Perhaps they learned some of this from a bird called the ibis. Of this bird, Pliny, A.D. 77, says, ‘He washes the inside of his body by introducing water with his beak into the channel by which our health demands that the residue of our food should leave.’”¹

These ancient Egyptians used strong drugs and enemata, believing the human intestine to be the source of most of their woes. In the middle ages attacks were made upon the guilt of the intestines as a source of most of the human ills. It was advised that places for defecation should be warm and comfortable. Following the irritation caused by scammony in the seventeenth and the eighteenth century,—then coming into the nineteenth with Abernethy² and his “eternal blue pill,” supplemented by black draught, with the everlastingly irritated anus, a revulsion of feeling occurred against the vicissitudes of the emptied colon. It was then that the human race began to develop nervous prostration and neurasthenia, with an increase in the amount of cancer and tuberculosis, and of all sorts of gastric disturbance—to say nothing of appendicitis.

Of late years, thanks to Metchnikoff and to Sir Arbuthnot

Lane, the profession is beginning again to realize what the Egyptians knew more than 3,000 years ago. In time the public will be re-educated, as a recent French cure professes to *re-educate* the intestine. Then again a happier day will dawn, when, with the regularly evacuated bowel, the human race will be saved many of its present ills, and more people will retain what otherwise is fast becoming not only a useless, but a dangerous, colon.

At the Hamilton Medical Society³ on May 3rd, 1911, I read a paper on duodenal ulcer, in which I propounded the theory that kinks in various parts of the intestinal canal might well be causes of intestinal stasis, and this a cause of duodenal ulcer. Lane⁴ has propounded the same theory. This theory was based upon the observation of a number of cases of duodenal ulcer operated upon, in which I found kinks in the intestinal canal. On several occasions a gastro-enterostomy failed to relieve completely the condition, and a loosening of the kinks or an entero-enterostomy or a short-circuiting was called for before complete relief was obtained. Naturally this made me sit up and take notice. Is duodenal ulcer a primary or a secondary condition? I am inclined to the belief that commonly it is secondary to a stasis causing infection in an already overloaded and overworked duodenum.

On December 20th, 1912, I opened a patient for Dr. James Moore, of Brooklin, Ontario, in whom we had diagnosed a duodenal ulcer with pyloric obstruction. We found the ulcer, overcast it, and did a posterior gastro-enterostomy, after loosening the first piece of the jejunum from the transverse mesocolon. This, instead of dropping normally into the left flank, was half as large as the stomach and was adherent to the transverse mesocolon and turned to the right, causing great distention of the duodenum as well. We also removed the appendix.

After a somewhat hazardous convalescence he was well for a few weeks and then began vomiting. Drs. McKay and Moore again opened him on March 10th, 1913, and finding the first piece of the jejunum re-attached to the transverse mesocolon, they again detached it. He was well then for most of the summer, but in the early autumn he began to have attacks of vomiting, associated with chills, headache, dizziness, and one night he lost consciousness and bit his tongue. He vomited great quantities of bile about every second day, although he rarely vomited food. In December, 1913, I again opened him, and did an entero-enterostomy, between the first piece of the jejunum and the coil lower down. Since then, after a prolonged convalescence, he has been perfectly well and is able to follow his usual occupation.

After a careful examination of a medical man,—Dr. F., aged thirty-nine—referred by Dr. Smith, of Stratford, I came to the conclusion that he was suffering from stasis. Dr. McPhedran had examined him and had diagnosed duodenal ulcer. Of this condition he had all the classical earmarks. On February 18th, 1914, I opened his abdomen, and he had a duodenal ulcer: in addition, he had evidence of an old attack of appendicitis, the tip being amputated and its lumen obliterated. There was a firm, fibrous Lane's kink⁵ of the ileum, and also adhesive bands binding the first piece of the transverse colon to the ascending. I divided all these kinks and bands and removed the appendix. I did no gastro-enterostomy, nor did I oversee the duodenal ulcer. He not only recovered from the operation but had no sign of indigestion or gastric disturbance of any kind for over three months, when a change in his usual mode of life caused some slight inconvenience for a time. He has gained in weight ten pounds. There is no doubt in my own mind that his ulcer is healed, notwithstanding the fact that he has suffered from gastric symptoms for over twenty years.

On April 24th, 1914, I saw a patient, Mr. B., aged twenty-two, who had a general peritonitis from a perforated duodenal ulcer. He was removed to the General Hospital as soon as possible. On opening the abdomen and mopping out the fluid contents, the perforation was easily found, sutured, and a piece of omental fat covered over the suture line. When putting a drain in the pelvis, I thought I had better have a look at the ileo-cæcal region, and I found a dense Lane's kink of the ileum, which had so contracted the ileum as to almost obliterate the lumen. This I loosened, at the risk of exposing a raw surface to the possibility of infection. He has recovered. The duodenum healed without further leak. Was the stasis the cause of his duodenal ulcer? There was a history of frequent attacks, sometimes diagnosed as appendicitis and sometimes as gall-stones.

On November 9th, 1911, I operated upon Mrs. A., aged thirty-one, referred by Dr. McPhedran for duodenal ulcer, and, finding it, I did a gastro-enterostomy. She recovered from the operation, but though her digestion was better, there was still great difficulty in getting the bowels to move, and she suffered severe pain in the left iliac region. In July, 1913, she returned from Montreal and I began to think of a second operation. She feared the consequences and returned home. In the autumn life became unbearable and about the first of the year she returned.

Dr. McPhedran and I fluoroscoped the stomach and found most active peristalsis with the gastro-enterostomy opening in good working order. A series of plates showed stasis, and the "foot-like" shadow in the cæcum. With the fluoroscope we could get the bismuth shadow in the cæcum at the end of nine days. On February 9th, 1914, I opened the abdomen and removed the cæcum, the ascending and part of the transverse colon, anastomosing the ileum into the stump of the transverse colon. From a state of having from two to three bowel evacuations a month, she began, after the operation, with four a day, then settled down to one or two copious evacuations without purgative or laxative of any kind. When able to be up for the first time she had gained three pounds. At the last report she was still doing well, was feeling well, and was gradually overcoming the neurasthenia for which she had been treated before she came under our observation.

The question now in my mind is, was the gastro-enterostomy necessary? Would the colectomy with short-circuiting have accomplished what we now have? Does it not strike you, as it struck me, that the kinks in the lower bowel may have been a causative factor in the production of these ulcers?

To illustrate another type of case I may mention Mr. D., aged thirty-eight, referred by Dr. Cooper Cole, and presenting symptoms of pain, nausea, and inability to get a bowel evacuation. Associated with each attack he passed urine resembling milk in appearance. This was not chyle. The laboratory reports were unsatisfactory. Finally he was compelled to knock off work. A bismuth meal showed a shadow in the ileum, appendix, and cæcum fifteen hours after. On January 9th, 1914, I opened him, removed an appendix containing several concretions, and divided a peritoneal band fixing the first part of the transverse colon to the ascending colon, thus producing an acute kink, with a collapsed transverse colon beyond. His symptoms disappeared, the bowels move regularly and he has a greatly increased capacity for work. I mention this case as a type of twenty-eight cases operated upon in the first five months of this year, that is, patients whose condition is usually diagnosed as "chronic appendicitis," but which really are cases of mild stasis. If the appendix only is removed, the so-called symptoms of "chronic appendicitis" recur as soon as the patient begins to follow his usual occupation. It is then that the surgeon finds himself at a loss to explain why the patient is not better. One cannot blame the physician for not believing more in the existence of such a condition, but what beats me is the surgeon

who daily sees such conditions—without observing them—and therefore still disbelieves!

Another type, represented by Mr. C., aged seventy-one, referred by Dr. W. A. Young, had almost constant burning pain in the epigastrium, going through to the back, with nausea and vomiting. There was difficulty with the bowels, he was unable to sleep and had lost thirty pounds. Upon examination I found a mass about the size of an open hand just midway between the umbilicus and the ensiform cartilage. The mass was uniformly smooth and I took it to be an enlarged pancreas. Thinking it might be the result of an infection from stasis, I had the barium meal given and a series of plates made. There was marked stasis at the end of twenty-four hours, at the ileo-cæcal region. On May 29th, 1914, I opened the abdomen and found an enlarged but uniformly hard pancreas. I divided a dense kink of the ileum. The transverse colon was parallel with and adherent to the ascending colon and the cæcum. These bands were easily divided and a retrocæcal appendix removed. He has done well, has had regular bowel evacuations, sleeps without hypnotics and the mass has disappeared from the epigastrium. My reason for mentioning this case is that it represents a type of case that is commonly diagnosed as "malignant disease," based on the following indications; the age of the patient, the gradual onset, the lump, nausea and vomiting, and the loss of flesh—a type of case that is condemned to a slow death with an associated morphine habit.

The question has often arisen in my mind—May stasis be a cause of some of our chronic joint conditions? Miss C., aged thirty-two, referred by Dr. C. S. Wright, has been a sufferer from rheumatoid arthritis for about eight years. Some joints are already ankylosed and most of the joints are painful. When Dr. Wright first saw her, he had the nose, throat and mouth carefully attended to, as a possible source of infection, without benefit. A water diet always gave relief. An x-ray examination revealed a marked ileal stasis at the end of forty-eight hours. On March 25th, I opened the abdomen and removed the cæcum, ascending colon, and the transverse colon as far as the middle colic artery, putting the stump of the ileum into the transverse colon. For the first ten days there was little or no joint pain, which was unusual, but as she began to move about there was some return. While the stasis is cured I do not expect that this patient's joints will loosen up, but I do look for a cessation of the progress of the disease as well as a great relief from pain, and I hope to be able to report in a year's

time that she is greatly improved. I know of nothing else that is of any benefit, and if, after a careful elimination of other possible causes, a stasis is present, I see no reason why it should not be relieved, until we discover whether it will bring about a mitigation of the symptoms, or possibly stay the progress of this dreadful affection.

The next is a series of cases in which the patients had become chronic invalids, looked upon as neurasthenics, getting little or no sympathy, and no relief from any treatment. Miss F., aged twenty-eight, referred by Dr. R. J. McMillan, gave a history of constipation for between fifteen and twenty years; headache for thirteen years, pain in back for fifteen or twenty years, pain in left side for three years, frequency of micturition, with difficulty in retaining urine, all her life, pain in the right side for six weeks, no appetite, dry skin, sallow complexion, weight one hundred and twelve pounds. She was tender over the lower abdomen, more markedly over the cæcum, with comparative rectus rigidity. On December 19th, 1913, I removed the cæcum, ascending colon, and the transverse as far as the middle colic artery, and anastomosed the ileum into the stump of the transverse colon. For some time there was difficulty in getting the bowels to move regularly. Apparently this was caused by an unusual amount of thickening at the point of anastomosis. Later this was overcome and she left the hospital on January 22nd with regular daily evacuations, requiring no medicine to bring this about. She was improving steadily and gaining weight. As she returned to her home in the United States a couple of months ago, I have lost track of her.

Mrs. L., aged forty-nine, never robust, for ten years had disturbance in the stomach, frequent attacks of vomiting, "churning" in the stomach at night, and belching of gas relieved for a time by a drink of hot water, headache, no appetite. At this time a cystic left ovary was removed as a possible source of reflex trouble, and for several years she was greatly improved, though at intervals she was bothered by symptoms referred to the stomach. A year ago the symptoms recurred in an aggravated form, associated with constipation, and nothing gave relief. All sorts of purgatives were tried but each soon lost its effect. The nausea and vomiting were prominent symptoms: pain in the epigastrium became severe after taking food, and there was almost constant pain under the left shoulder blade; there was also daily headache. She complained of a tired feeling within the abdomen. With a six weeks' rest in bed there was some improvement, though she lost flesh

steadily. Frequent examinations showed a ballooning of the bowel in the ileo-cæcal region. An *x*-ray examination showed a shadow in the cæcum and splashes throughout a prolapsed colon at the end of five days. On March 24th, 1914, I resected the ileum and removed the cæcum, ascending and most of the transverse colon, anastomosing the ileum to the stump of the transverse colon. Her progress was uneventful. She has had no gastric symptoms since, she eats anything, although she had not eaten fruit for years, sleeps well, has gained thirteen and three-quarter pounds, and has one or two bowel evacuations daily without medicine.

Mr. L., aged twenty-eight, referred by Dr. A. R. Gordon, has been an invalid for two years. During that time he has sought help from various physicians and varying climates. For the past two years he has worn a spinal brace for Pott's disease, of the presence of which neither Dr. Gordon nor I could find any evidence. He had constant abdominal distress with constipation. He has pulmonary tuberculosis, however, as well as a positive Wassermann. Upon investigation one could make out a ballooned cæcum and the *x*-rays revealed a marked stasis. On May 27th, 1914, I removed the cæcum, ascending colon and part of the transverse, anastomosing the ileum to the stump of the transverse colon. He has had a trying convalescence but recently has begun to improve. Judging from several cases recently reported of pulmonary tuberculosis which had developed tuberculosis of the large bowel, in which I had either short-circuited or done a resection with short-circuiting, and which recovered not only from the bowel condition but from the pulmonary condition as well, I should think his chances of permanent cure are excellent.

Mr. M., aged twenty-nine, has suffered from stomach and bowel trouble for sixteen years. When he gets a bad attack he becomes extremely nervous, and breaks out in a sweat on the right half of the body. He "acts like a crazy man" when his attacks of distress are at their worst. Walking sometimes relieves, but he gets most relief from large quantities of whiskey. His appetite is ravenous, but he has immediate distress which continues, with soreness in the epigastrium. He has eructations of sour fluid, very little nausea, but vomits almost daily. He succeeds with purgatives in getting a daily bowel evacuation, but never feels that the bowel empties itself. He has been treated by physicians without number for a dilated stomach. The *x*-ray findings reveal stasis. On June 22nd, 1914, I opened the abdomen, and found an enormously dilated cæcum, ascending colon and part of

the transverse. At the hepatic flexure a marked angulation, and at about the middle of the transverse a cord-like band, springing from the under surface of the omentum completely surrounded the bowel. Feeling that a mere division of the kink in the hepatic flexure and a division of the band might not give the colon a chance to regain its tone, I resected and anastomosed the ileum to the transverse colon. He is progressing favorably and is gradually regaining a placid stomach, which by the way was not dilated, and the bowels are moving regularly with very little assistance.

Most of these cases are too recent to say much as to permanent results, but judging from results formerly reported I am very sanguine as to the future.

The question may properly be asked—Why remove only part of the colon? In answer to this I would say that if there is no obstruction in the splenic flexure or sigmoid, I consider it an advantage to join midgut to midgut rather than, as in ileo-sigmoidostomy, to join midgut to hindgut, and secondly, if one does not go beyond the middle colic artery one is sure of the colon's blood supply, and also sure of a good omentum.

My belief has been that these kinks and bands are congenital.⁶ This theory seems to be confirmed by a recent report by Dr. Loughheed, assistant pathologist at the General Hospital. A baby two days old died of melæna, and at the autopsy the following note was made: "Small intestine black in colour, distended, and contains tar-like material. One inch from the ileo-cæcal valve, binding down the small intestine in a V-shaped manner, occurs a definite, white fibrous band which runs over the brim of the pelvis towards the rectum. Cæcum slightly distended with gas and tar-like material. No evidence of obstruction, volvulus or intussusception."

References:

1. JOHN BRYANT, Int. Abs. Surgery, "Stasis and Human Efficiency," *Surg. Gyn. and Obstet.*, May, 1914.
2. "Re-education of the Intestine," *Brit. Med. Jour.* (Editorial), May 2nd, 1914.
3. F. N. G. STARR: "The Surgical Aspect of Duodenal Ulcer," *Can. Med. Assoc. Jour.*, March, 1912.
4. LANE: *Brit. Med. Jour.*, April, 1913.
5. "The Kink of the Ileum in Chronic Intestinal Stasis": A Monograph by Sir Arbuthnot Lane; James Nisbit, 1910.
6. F. N. G. STARR: "Intestinal Stasis," *Canada Lancet*, 1914.

VI—ILEAL STASIS

BY LEWIS GREGORY COLE, M.D.

New York

WE are indebted to Sir Arbuthnot Lane and Dr. Jordan for the interest which has been elicited in this country and abroad in the question of intestinal stasis. It cannot be denied that such a condition exists and is the cause of a certain group of symptoms; and it is also true that in many instances practitioners and surgeons have failed to recognize it as such. The extreme theories of Mr. Lane and some of his disciples have served their purpose in exciting the antagonism of conservative observers, and have resulted indirectly in the discussion of this subject at the present meeting.

While I may have a very definite opinion as to whether or not intestinal stasis is a cause or *the* cause of a large group of ills to which humanity is subject, such as cancer, tuberculosis, nephritis, senility, insanity, lack of sexual desire, etc., my discussion must be limited to a consideration of the subject from the roentgenologic standpoint. The whole subject of intestinal stasis centres around the roentgenologic findings. If it were not for this method of examination intestinal stasis would still be discussed under the term constipation. Therefore it is essential that the roentgenologic foundation be sound, solid, and scientific or the whole superstructure will fall.

The indirect or continental method of examination, based on the detection of symptom complices, is as the name suggests, simply the observation of various groups of symptoms by an unusual method and not direct evidence of the lesion itself. Each roentgenologist compiles his groups of symptom complices, corresponding to the different diseases he has to diagnose, with the result that they are as varied as the observers who describe them. The direct method, on the other hand, is based on the detection of morphologic changes in the wall of the gut, or direct evidence of spasms of functional origin, by means of roentgenograms or serial roentgenograms.

Roentgenology may become a two-edged sword. The damage and danger of its use cannot be overestimated, when roentgenograms are used by the surgeon to demonstrate a preconceived

diagnosis and to force the patient to submit to surgical procedure. Jordan told me that at first he seldom found roentgenologic evidence of kinks in the various portions of the small intestine, but that Mr. Lane told him they were there, and that he must find some way to demonstrate them roentgenographically. This he proceeded to do, and very graphically described among other phenomena the writhing duodenum, due to obstruction at the duodeno-jejunal junction. Now this condition does exist, and I have demonstrated it roentgenocinematographically, but it is not found with anything like the frequency that some observers would lead us to believe. A writhing duodenum may be obtained in any case, as Holzknicht has shown, simply by exerting pressure on the duodeno-jejunal junction and pressing it against the spinal column. Great care must therefore be observed to differentiate between real and artificial obstruction at this point. There are likewise cases supposed to be suffering from kinks of the terminal ileum and ileal stasis, which show no roentgenologic evidence of delayed evacuation at this point. The roentgenologic diagnosis in such cases is based on mobility under deep palpation of certain localized areas of the terminal ileum during fluoroscopic examination. Personally, I believe that this is insufficient evidence upon which to base a diagnosis of ileal stasis requiring surgical relief.

In other instances the diagnosis of intestinal stasis has been based on the length of time during which bismuth was observed in the terminal portion of the ileum after its ingestion. For this consideration the fundamental question is,—what is the normal time for the bismuth to remain in the terminal ileum? Jordan, in his recent tour of this country, illustrated cases of "ileal stasis requiring surgical procedure" by demonstrating slides showing retention in the terminal ileum six, six and one-half, and seven hours after the ingestion of bismuth. When I put the question to Sir Arbuthnot Lane, he stated that he "felt uneasy about ileal stasis after the seventh hour following the ingestion of bismuth." According to Lane, therefore, seven hours is the limit of time during which chyme may normally be found in the ileum after the ingestion of bismuth-impregnated food. I habitually make roentgenograms of the entire gastro-intestinal tract during the seventh hour after ingestion and in more than 98 per cent. of all the cases examined bismuth has been found in the ileum at that time. In fully one half the cases there is a trace of chyme in the stomach, cap or duodenum during the seventh hour. In other cases, particularly if the stomach is of the cow-horn type, complete gastric

evacuation takes place in two or three hours. Here is an important source of error in reckoning ileal stasis. If ileal stasis is reckoned from the time of ingestion, the problem becomes a complex one, that of ileal stasis plus gastric retention. To determine the degree of stasis in the ileum one may reckon the period that elapses between the ingestion of food and the time when the first bismuth-impregnated food passes into the cæcum, except in cases of stasis due to insufficiency of the ileo-cæcal valve. These results may be checked up by noting the time that elapses between the complete evacuation of the stomach and the evacuation of the ileum. The first is the more accurate and convenient method of determining true ileal stasis, because when the ileum is dilated one usually observes an accompanying functional gastric retention, which may be prolonged for eight, ten, twelve, or fourteen hours without any organic obstruction of the pylorus or cap. This of course prolongs the ileal stasis, because the chyme is four to eight hours late in arriving at the ileo-cæcal junction.

Roentgenologic evidence indicates that ileal stasis or rather ileal dilatation may be caused by (1) incomplete evacuation or atony of the cæcum and ascending colon, (2) various types of membranes and veils involving the colon, (3) kinks of the terminal portion of the ileum, (4) insufficiency of the ileo-cæcal valve, (5) chronic appendicitis (primarily or secondarily from adhesions, either before or after the appendix has been removed). All of these conditions may be recognized and differentiated from each other with a remarkable degree of accuracy by a thorough roentgenologic examination, preferably in conjunction with a serial roentgenographic examination of the stomach and duodenum.

The symptoms of ileal stasis are rather varied because sometimes the symptoms of the cause prevail, and sometimes the symptoms of the effect prevail, particularly those referable to the stomach and cap. These symptoms will be considered under the discussion of each cause.

Colonic stasis is perhaps the most common cause of ileal stasis. Since the time when man dispensed with forefeet and assumed the erect posture, it has been up-hill work for the ascending colon to evacuate itself. Overdistention of the cæcum and ascending colon constitutes a large proportion of colonic stasis. The dilatation and atony of this region is partly compensated for by the active peristalsis of the terminal portion of the ileum. In proof of this, bismuth-impregnated fæces will be observed in the cæcum much longer after a bismuth meal followed by a period of fasting,

than after a bismuth meal followed by the ingestion of food or possibly water. If the stasis (or constipation) in the ascending colon is persistent, unusual energy is demanded from the peristalsis of the terminal ileum. When its strength is not sufficient to break the blockade, delayed evacuation results, accompanied by a chain of symptoms, perhaps referable directly to the exciting cause, "caecal constipation," or perhaps referred to the stomach and cap. To overcome this obstruction, bismuth-impregnated chyme may be seen frequently forcing its way up through the fecal accumulations in the caecum and ascending colon, or the next meal succeeding the bismuth meal may be observed working up through the ascending colon. If in such cases the caecum and ascending colon can be evacuated by properly applied manipulation, massage or even catharsis, previous to the ingestion of more food, stasis of food in the terminal ileum will thus be diminished, and often the gastric or duodenal symptoms referred to the right hypochondrium will be relieved. Moreover lesions in this region of a much more serious character may perhaps be prevented.

The various types of veils and membranes involving the caecum, ascending and first portion of the transverse colon undoubtedly cause an ileal stasis, either directly by affecting the colon or terminal ileum or indirectly by the associated constipation which blocks ileal evacuation. These lesions may be diagnosed with a great degree of certainty by roentgenography, preferably combined with roentgenoscopy. The drawing up of the caecum, the irregular filling defects in the colon, and particularly the "double-barrel-shotgun" appearance of the ascending and first portion of the transverse colon, referred to by George, are very characteristic roentgenographic findings. Such conditions are undoubtedly important factors in the cause of obscure symptoms referred to the stomach and cap, particularly those associated with hyperchlorhydria, and should be searched for when the right hypochondrium fails to reveal the seat of the trouble. Sometimes the direct symptoms of constipation are so severe that the presence of gastroduodenal symptoms is entirely overlooked.

I fear that the treatment of these conditions is not so simple as some surgeons would lead us to think. One group of surgeons will split these membranes, remove the veils, and watch the colon pop out of its cage, believing that the patient is freed from symptoms forever. Unfortunately they are likely to return, renewed by the conditions which originally caused them, or by the trauma of manipulation from surgical procedure. In other cases where there

is atony and dilatation, some surgeons attempt to reduce the size of the colon and hold it in position by artificially producing the conditions which the aforementioned group of surgeons try to destroy. The most successful method of surgical treatment for such cases could be determined by post-operative roentgenologic investigations in conjunction with careful clinical observations.

Kinks in the terminal portion of the ileum, either with or without mobile cæcum, undoubtedly do occur and cause the group of symptoms described by Lane and recognized by others. On several occasions I have been able to recognize them with an accompanying dilatation of the proximal ileum, and I have been able to demonstrate them to the most sceptical observer. But these kinks are a rare rather than frequent cause of ileal stasis. Where a kink really exists and causes ileal stasis and dilatation, especially if it is associated with symptoms, surgery for its relief is undoubtedly indicated. But operative procedure intended for the relief of such kinks will not cure all cases of ileal stasis, nor relieve the accompanying symptoms. Furthermore if the stasis is not caused by a kink, operative procedure may aggravate the symptom.

Insufficiency of the ileo-cæcal valve is a condition which I first recognized in 1902. Out of the cases examined since that time, I have observed about two hundred and fifty cases of this irregularity, and have used every effort to arouse the interest of surgeons and practitioners in the subject without success. Even now in cases where the clyisma passes all the way to the duodenum, and the patients present marked abdominal symptoms, surgeons and practitioners refuse to attribute any significance to this finding. I find that the only way I can interest them is to ask if they would expect symptoms, if they fed their patients fæces removed from the colon. I have failed to report this group of cases, at first because the question of tuberculosis occupied my attention and later because my efforts were concentrated on gastro-duodenal lesions. Kraus, Schwartz, Holzknecht, and more recently Groedel and Dietlan, have reported roentgenographic observations of ileo-cæcal insufficiency. Case has published an article, and on several occasions demonstrated slides, showing the frequency with which this lesion manifests itself. Its clinical aspects have been described by Kellogg, who has recently devised an operation for repairing an incompetent valve, and a method of constructing an artificial one, which will undoubtedly create a great interest in the whole subject.

Some of my cases of insufficiency of the ileo-cæcal valve, particularly the first ones that I recognized as such, where the bismuth had passed a long distance up the small intestine, were associated with periodical attacks of nausea, vomiting, fever, prostration and headache, and with cramping abdominal pain, especially marked in the right quadrant of the abdomen. This is the group of symptoms which is attributed variously to bilious attack, migraine, auto-intoxication, and frequently appendicitis. Sometimes, if the symptoms are sufficiently indefinite, the patient is permitted to retain his appendix, at least temporarily, in case it has not been removed already.

Reflecting on the roentgenologic evidence, it occurred to me that this group of obscure symptoms was very likely due to the influx of large quantities of fæces, loaded with bacteria and their products from the colon, where they are normal, into the small intestine, which is relatively sterile compared with the colon. To increase my confidence in this theory, I found that the severity of the symptoms was proportionate to the length of the small intestine which the cæcal contents traversed. Many cases were observed, presenting a mild degree of insufficiency, and the accompanying symptoms were only slight, or if acute, the attacks occurred at long intervals. Kellogg and Case have already referred to the ileal stasis, caused by or associated with this lesion, and my experience corroborates their observations.

The importance of insufficiency of the ileo-cæcal valve justifies a communication limited to that subject alone, but it is impossible to consider it further in this communication, where it has been introduced merely as one of the potent factors in ileal stasis, and consequently in spasmodic and organic lesions of the stomach and cap.

The roentgenologic findings of chronic appendicitis are of immense diagnostic importance. The appendix, partially or completely filled, has occasionally been found by many roentgenologists, and exhibited at meetings or perhaps reported as a monstrosity. But Case and George deserve the credit of observing the appendix roentgenographically often enough to justify them in drawing conclusions as to the significance of its roentgenographic appearance. Adhesions accompanying an involved appendix which flatten the side of the cæcum are frequently observed both before and after an appendectomy, and in my opinion are of more significance than the actual demonstration of the appendix itself, unless it retains the bismuth content for many days.

In summarizing the foregoing remarks it may be said that ileal stasis does occur, but not as frequently as some observers claim to find it. Its presence is due to or associated with colonic stasis and dilatation of the ascending colon, pericolonic veils and membranes, kinks of the terminal ileum, insufficiency of the ileo-cæcal valve, and chronic appendicitis, before or after the removal of the appendix. The common error in reckoning true ileal stasis, together with the custom of operating for the relief of stasis which does not show roentgenographically, has been sowing to the wind, and even conservative roentgenologists throughout the country are reaping the whirlwind of criticism. The use of roentgenograms as a weapon with which to urge surgical procedure for some preconceived diagnosis should be vigorously condemned.

MEDICAL COUNCIL EXAMINATIONS

THE examination of the Medical Council of Canada was held at McGill University, Montreal, on October 13th. The following candidates have been successful and will be enrolled on the Canada Medical Register: H. D. Bayne, S. J. T. Bean, L. O. Beauchemin, D. E. Bell, J. P. Bilodeau, J. A. R. Biron, J. E. Bourget, J. T. Bowman, G. C. Brink, N. Brown, W. A. Brown, L. E. Clark, H. C. Dixon, J. A. Dobbie, E. J. Eacrett, L. Elliott, L. S. Foster, A. W. Furness, W. C. Gowdey, N. M. Halkett, H. M. Harrison, W. R. Jaffrey, M. L. Jewett, A. S. Kirkland, C. F. Knight, T. H. Lennox, L. P. Machaffie, J. S. McDiarmid, G. D. McIntyre, L. H. McKim, H. C. Mersereau, J. G. H. Morin, F. J. Murton, T. Nepven, J. Norman, J. E. O'Donnell, J. W. Peck, L. T. W. Penney, H. H. Planche, J. R. Rheaume, H. V. Robinson, A. Ross, W. W. Ruddick, C. M. Scott, W. L. Shannon, J. N. Smith, J. J. Trudel, C. K. Wallace, A. B. Walter.

Of the remaining candidates, twenty-two were rejected and fifteen were referred back to take supplementary examination when occasion next offers.

THE EARLY DIAGNOSIS AND PROGNOSIS OF PULMONARY TUBERCULOSIS BY ROENTGEN METHODS

BY A. L. GRAY, M.D.

Richmond, Va.

IT is now a generally accepted fact that practically all cases of pulmonary tuberculosis are curable, if treatment is begun and persistently carried out before the involvement has progressed to the point of overwhelming the resistance of the individual. It is also agreed that the point of clinical significance is not whether there is or has been an infection, but whether the infection is, at the time of examination, of such a character that it may increase and whether the involvement is or is not sufficient to merit active procedure. With the foregoing ideas constantly in mind, I have attempted to work out a technique that would enable me not only to discover the disease, if present, but to predict with some degree of accuracy the future progress of the case under consideration.

With all due regard for the roentgenoscopist who claims to detect incipient tuberculosis by screen examination, and also for the most excellent work of those who maintain that certain characteristic "linear markings," that are said to be present in the roentgen plate of the tuberculous lung, I am free to confess that my best efforts with both of these methods have failed to give me the results that I have obtained by other means. I can not conceive of an involvement in its very early stage causing a failure of portions of the lung to "light up" properly, producing limitation of excursion of the movable structures, or casting a sufficiently well-marked shadow on the screen to give a definite visual impression. I have been unable to find the so-called "linear markings" in many cases of unmistakable early tuberculosis in which the subsequent course unquestionably proved the diagnosis.

The single front and back plates have the disadvantage that superimposed structures may mislead. Lesions may be obscured by normal shadows, or the crossing of branches of the bronchial

Read at the annual meeting of the Canadian Medical Association, St. John, N.B., July 8th, 1914.

tree may give the impression of a pathological process. Both of these difficulties are obviated by the perspective of the stereoscopic pair.

The objection has been raised that the usual method of making one stereoscopic pair with the plates in front of the chest fails to show lesions that are distant from the plate. The advent of the sharp focus, tungsten target tubes has largely overcome this so that lesions behind the hilum are almost as readily detected in the average individual as those near the anterior surface. If, however, the posterior branches of the bronchial tree should not be clearly defined, a second pair should be made with plates behind the chest.

The question naturally arises, if practically every individual has in his or her lungs the marks of tubercular infection, when are we justified in rendering a positive diagnosis or when is it permissible to say that tuberculosis may be excluded? The number and especially the condition of the lesions present should be the determining factors, when added to the clinical history of the patient.

Since the characteristic lesions produced by the bacillus tuberculosis are tubercles, it seems reasonable to search for these in our examination, and unless they be found, a positive diagnosis of tuberculosis should not be made, however much infiltration or glandular enlargement may be present. Bronchial gland enlargement may be, oftener than otherwise, due to tubercular infection, but many diseases other than tuberculosis may give rise to this condition. Thickening at the roots may be due to infiltration or deposits caused by any prolonged infection or irritation of the bronchi or mediastinal structures. While these are suggestive they should never be considered as alone pathognomonic.

I consider a positive diagnosis of active tuberculosis unjustifiable unless discrete, soft tubercles can be plainly demonstrated. In advanced cases interstitial infiltration and tubercular coalescence may have proceeded to the extent of solidifying the greater part of one or both lungs, but if the process has been recently active, discrete lesions may be detected outside the solidified area. It is amazing how extensive an involvement may be carried without the slightest inconvenience so long as it remains inactive and the process of cicatrization or calcification proceeds without additional involvement.

Much depends upon technique in securing plates that are trustworthy. While perspective is far more perfect when the lung tissue appears dark, this is obtained at the cost of a proportionate loss of detail. It is far better that the plates be under-exposed than

that the lung structure be wiped out by an exposure with a soft tube giving the beautiful contrast and perspective that are obtained when the bony thorax is under consideration. My practice is to use the highest tube that will take the current and to make the shortest exposure that will give me a readable plate without the use of intensifying screens. If each exposure does not exceed a quarter of a second, in a large proportion of the cases the plate will not show the blurring of the hilum shadows caused by the cardiac and arterial impulses. Not infrequently the heart may be caught in the same phase of its cycle in both plates and its sharply cut contour and perfect perspective present a most striking picture.

The posture of the patient and direction of the tube-shift are matters of individual preference and convenience. The antero-posterior depth of the chest is probably brought out better by shifting parallel with the long axis of the body. The cross shift gives a better impression of the apices and enables the operator to adjust more accurately the patient to the size of the plate. It also gives a better impression of the relation of the mediastinal structures. The front of the chest should be in firm contact with the surface covering the plate changer and the shoulders should be drooped and drawn forward until they also touch it. The arms with the fore-arm slightly flexed should be kept well away from the chest-wall and rotated inward so that the elbows are thrown out from the body. The chin should project straight forward over the margin of the table, or else, if the plate changer will not admit of this, the head should be rotated at right angles, care being taken that in so doing the shoulder is not lifted from the table. The patient should be carefully drilled in holding the breath on deep inspiration without raising the shoulders from firm contact with the table. By these means the apices are brought into the closest possible proximity to the plate, and the mass of muscle which results from extending the arms above the head is avoided.

In examining the plates, there should be noted the shape and characteristics of the thorax, the heart and mediastinal structures, the comparative height of the two sides of the diaphragm, its contour, the "cardio-hepatic or cardio-diaphragmatic angle," the "costo-diaphragmatic angles," and the condition of the pleuræ. Each lung should be studied first at its hilum, then along the bronchial tree to its ultimate visible ramifications, and the lung tissue should be minutely searched lobe by lobe, noting the presence of glands, thickening or infiltration at the roots, thickening of the bronchial branches, furring and studding of the bronchial tubes,

areas of atelectasis, emphysematous spots, dilated bronchi or bronchial tubes, interlobar pleural thickening, areas of consolidation, and whether or not, if present, the consolidation is homogeneous or mottled, the presence or absence of tubercles, their density, and the presence or absence of calcification or scar tissue formation.

Much information concerning the patient's resistance can be obtained by a careful consideration of the tuberculous lesions present. The degree of calcification and amount of scar tissue are very accurate indices of the ability of the patient to care for involvement. Individuals differ greatly in the method of healing the diseased areas. One will exhibit a large amount of scar tissue and little calcification, while another shows chiefly calcification with little fibrous tissue increase. Since the roentgenologist is rarely called upon at the beginning of the first infection there are nearly always marks of previous lesions that may guide him in his prognosis. In those exceptional cases of truly primary involvement, a second examination after an interval of a few weeks or months will usually furnish the desired data.

A HOSPITAL bearing the military number forty-seven has been established at the Rue de la Chaise, Paris, and it is the intention that it shall be maintained by the parishes in the province of Quebec. The cost of each bed will be one dollar a day and each municipality in the province is asked to contribute one hundred and fifty dollars, or sufficient to maintain one bed for five months. The provincial government has contributed \$10,000 to the fund, which will provide for a ward containing about seventy beds with attendants; the ward will be known as the Provincial Government of Quebec Ward.

THE SUBCUTANEOUS INJECTION OF OXYGEN

BY H. O. HOWITT, M.D., L.R.C.P. (LON.), M.R.C.S. (ENG.)

Guelph

EVERY practitioner finds some time or other the giving of oxygen to be indicated as a therapeutic measure, and he gives it—with results so indifferent that beneficial effects are invariably of note only by their absence.

I have given oxygen a great number of times since Derose's article was published in *The Medical Press Circular* of May 1st, 1912. I believe this method to have been unused before in this country, except for the treatment of milk fever in cows. With this disease the milching cow suddenly goes off its food, relaxes its neck muscles, loses interest in its surroundings, falls, and the hind legs become useless. The cow is apparently about to die, until a veterinary surgeon, well up in his work, arrives on the scene and injects oxygen into the udder, and almost instantaneously the animal recovers. I am informed that when this treatment is not used the cow frequently dies within three or four hours from the onset of the symptoms. Acting on this principle, Dr. Williams reported in August, 1912, intra-mammary injections of oxygen for eclampsia, and attributed any beneficial effects which were noticeable to absorption of the oxygen.

Delmas and Delmas in 1912 reported excellent success in resuscitating asphyxiated infants by this method. Derose recommends the use of oxygen by the subcutaneous method in cases of tuberculosis with dyspnoea, and remarks that "the temperature falls and a feeling of well-being immediately prevails, for which the patient is very grateful, and sleep, previously impossible, becomes soothing and refreshing." He suggests its employment for (1) the toxic dyspnoea of uræmia, (2) eclampsia, (3) carbon di-oxide poisoning, (4) in certain cases of diabetes, (5) emphysema, (6) pertussis, (7) asystole, and (8) in those cases where mechanical obstruction is precisely located in the air passages.

My experience, which now covers nearly two years, includes the dyspnoea of tuberculosis, gas poisoning, pneumonia (lobar and lobular), oedema of the lungs, bronchial asthma, and operative

cases. In no case were any ill effects noticeable, either at the time or afterwards. One asthmatic said that it relieved him, but I did not notice appreciable improvement. The carbon di-oxide case may have recovered without the injection, but in some of the pneumonia and operative cases the results were simply astounding.

CASE 1. One of my early experiences was with a man whom I had a few days before operated on for perforated gastric ulcer. He had a well-marked bronchitis at the time of operation which developed into pneumonia. The case rapidly became apparently hopeless; there was no noticeable breathing, the pulse was imperceptible, a cold clammy sweat had broken out on the forehead, the extremities were actually cold at the knees and elbows. I injected oxygen subcutaneously and *in less than one minute* the man could speak with a fairly strong voice, the pulse returned with fair volume, the colour reappeared in the skin, and he breathed easily. There were three astounded witnesses to this scene, or I would refrain from mentioning it. Subsequently the man made an uninterrupted recovery.

CASE 2. A woman, sixty-six, with lobar pneumonia; temperature $103\frac{1}{2}^{\circ}$, respirations forty-six, rapid pulse, rusty sputum. The condition became alarming on the fourth day from the onset. Oxygen was injected. The temperature dropped a degree, and almost at once the breathing became less laboured, and the patient was very grateful. Injections were given twice daily, and the case no longer resembled pneumonia.

CASE 3. A young man with lobar pneumonia. He was quite delirious, and had not slept for sixty hours. In an unwatched moment he crawled out of the window into the snow. On his return to bed oxygen was injected, and before the needle was withdrawn he fell into a sound sleep which lasted two hours. What is particularly interesting about this case is that the injection was intramuscular and apparently was the only thing that gave any relief. This patient succumbed some three days later.

CASE 4. A young woman with lobar pneumonia, temperature 104° , pulse 150, respirations 46 to 52, and apparently about to die. This was three days from the initial chill. With these conditions I took over the case, injected oxygen subcutaneously and she made a rapid recovery. Of course this injection may have coincided with a third-day crisis.

CASE 5. Dr. Orton, of Guelph, informs me that he was about to operate on a case for empyema when the patient suddenly stopped breathing, turned extremely cyanotic, and those present

considered the end had come. The anæsthetic was immediately stopped and oxygen subcutaneously injected. At once the cyanosis disappeared and the pulse and breathing returned. The operation proceeded, with eventual recovery.

CASE 6. Dr. J. McCrae, of the Royal Victoria Hospital, Montreal, wrote me to the following effect: In only one case in thirty were the results of oxygen *sensational*. This was a man aged thirty-four, just operated on (excision of the bowel for new growth). Three hours after the operation the man appeared to be dying. The lungs were cedematous. Respirations were shallow and rapid, and Dr. McCrae's impression was that the patient would die within the next fifteen minutes. Four injections of oxygen were given, and the man recovered without alteration of the respiratory rate, and the oxygen immediately increased his comfort.

The following is a description of the apparatus and the method of its use: Oxygen is generated from sodium peroxide coming in contact with water in a closed cylinder, and the gas set free escapes by means of a long rubber tube, at the distal end of which is an aspirating needle which is inserted into the subcutaneous tissue. The tube is then oiled and by a pumping action of the hand, sufficient force is used to raise a lump once or twice as large as the closed fist.

The oxygen injected by this method forms a local emphysema which lasts for hours and may travel over the surface of the body. Apparently the body only absorbs that which is necessary. It is really the formation of an artificial lung. I have never known a single ill effect to follow its use; in every case where the breathing was laboured, the patient experienced some relief. In some cases, the ones I have mentioned, the results were almost as wonderful as a chapter from the "Arabian Nights," and were witnessed by several medical men and nurses. Before passing judgment, I would ask that it be given a fair trial. One case like these mentioned, among a great many who were helped only a little, would make it well worth while.

It is not a "sure cure" for pneumonia or any other disease, but when oxygen is *urgently* needed by the cells of the body this method of introduction of oxygen fills the requirement. In my experience the old method of inhalation was a failure.

Case Reports

OBSTRUCTION OF THE JEJUNUM TWO FEET FROM ITS ORIGIN

INTESTINAL obstruction is always interesting, and the case which I am taking the liberty of presenting to you is especially so as it involved the jejunum high up, being only about two feet from the duodeno-jejunal juncture. The history is as follows:

Mrs. R., aged thirty, was seen with Dr. J. A. Bauer on April 5th, 1914. She had symptoms of acute obstruction of the bowel, with vomiting of fecal matter, abdominal pain, tenderness and distension. The temperature was below normal, and the pulse was fast, being 120, and of poor volume. The vomited matter contained several small, hardened, fecal masses the size of hazel nuts.

Previous history: She had always had bilious attacks even when a child, but escaped the usual diseases of childhood. She never had any serious diseases. She is the mother of three children, but never had any miscarriages.

Family history: Good; one grandfather died of tuberculosis; nine brother and sisters are living and healthy; one dead.

During the last few years she has been troubled with sickness of stomach, vomiting of bile, and constipation. These attacks would last for a day or two, and then disappear. In 1907 she had an attack of cramps in the abdomen, and vomiting. She was in the hospital for ten days. During this time there was no fever. She had constipation, rumbling of gas in the abdomen, but no attack until April, 1913, when there were obstructive symptoms with abdominal distension, peristalsis of the bowel, usually seen in the upper left, and later in the upper right abdominal region, and rapid pulse, but no fever. Her condition was so serious that she was taken to the City Hospital and operated on by Dr. L. W. Cockburn, of Hamilton. Some adhesions in the transverse colon were separated and the abdomen closed. She made a rapid recovery, and enjoyed fairly good health during the summer, but the peristalsis was still seen in the upper left abdominal region. In November, 1913, she went to England, and spent the winter there. She returned to Hamilton in the early part of the year much improved

in health, having gained considerably in weight. She, however, was never quite free from distress in her abdomen.

In March she began to experience her old symptoms of crampy pains, belching of gas, peristalsis of the bowel, and marked constipation. She lost weight rapidly. She consulted Dr. Bauer who examined her carefully, and concluded there was a chronic obstruction of the bowel. An x-ray was made after a bismuth meal, but the exact site of the obstruction could not be determined. On Sunday, April 5th, symptoms of acute obstruction appeared, and I saw the lady with Dr. Bauer. She was removed to the City Hospital and the stomach washed out. We were unable to decide where the obstruction was before operation. Although the abdomen was distended no peristalsis could be seen or felt. The abdomen had been opened in the median line at the previous operation, and as the obstruction was believed to have been due to bands around the transverse colon at the operation the year before, I decided, owing to the gravity of the patient's condition, to make a gridiron incision in the right iliac region and drain the cæcum, provided the small bowel was distended at its junction with this part of the larger bowel. However, when the cæcum was exposed the ileum was found contracted. On introducing the hand into the abdominal cavity, the upper part of the jejunum was found enormously distended and obstructed by a band about two feet from the duodeno-jejunal juncture. The bowel proximal to the obstruction was two and one-half inches in diameter, while the bowel distal to this band was less than half its normal size.

The obstructed part could be drawn out of the wound quite easily. The distended bowel, after the wound and abdominal cavity had been carefully protected with gauze moistened with warm saline solution, was opened. A Paul's tube was inserted and quite a large quantity of fluid feces escaped. The bowel coats were enormously hypertrophied, yet no peristalsis could be provoked. The bowel was then washed out and also the stomach. Some round, hard, fecal masses came away from the bowel, and some fluid with fecal odour from the stomach. A normal saline was given interstitially, and also saline by the rectum. This was repeated during the next few days as the patient was in a precarious state. The bowel began to drain through the tube, and the patient gradually gained in strength. Six days later as the patient was in fair condition an anæsthetic was given, and the bowel resected. The dilated bowel was found reduced but little in size, and the coats were more like those of the stomach than of the

bowel. A large lateral anastomosis was made, and the abdomen partly closed. She was very weak after the operation, but responded nicely to interstitial and rectal salines, and was able to leave the hospital sixteen days after the second intervention. Since her return home she has had two short attacks similar to her old ones, but she has gained in strength and weight. Constipation is present although liquid paraffin has helped very much to relieve this condition. There has been no vomiting of bile and no visible peristalsis since the last operation.

The specimen removed is extremely interesting. The bowel is constricted to such an extent that only a small circular opening one-eighth inch in diameter exists. On the distal side of the opening is a small nodule, the size of a small pea, similar to a small indurated pile. The band which constricted the bowel is composed of fibrous tissue which probably resulted from an old diseased lymphatic gland. A section of the small nodule shows fibrous tissues covered with epithelium. The hypertrophy of the walls of the proximal bowel is in the muscular coat.

In this case there were two attacks of acute obstruction requiring operation. Dr. Cockburn informed me a few days after my operation that when he operated the lady was in a very serious condition, the transverse colon was obstructed by a fibrous band which he divided and then closed the abdomen. The patient made a quick and rapid recovery, she gained weight rapidly, and no further trouble was anticipated.

She informed me, however, that during the summer following she still had attacks of rumbling in the bowels, and swelling in the upper left side of the abdomen, but observed none in the right side. At the second operation the obstruction was found in the jejunum. The constriction had evidently been produced by a diseased lymphatic gland. It is hardly possible that this diseased gland had produced the constriction of the colon, as well as that of the jejunum, as no bands connected the two bowels. That the stenosis of the jejunum was of long standing is proved by the tremendous hypertrophy of the proximal bowel together with its inability to return to anything like its normal size after six days drainage. One can easily understand this lesion being overlooked at the first operation on account of the serious condition of the patient, and the evident cause of obstruction in the colon. Since the last operation there has been no bilious vomiting, and no observable peristalsis, yet she has had cramps on two occasions. She lays great stress on the bilious vomiting, and one can easily

understand this could be a prominent symptom when a chronic obstruction existed so near to the beginning of the mid-gut. Just what produces the cramps which she has had since returning home, I am unable to state. If a median instead of a lateral incision had been made, I would undoubtedly have been able to explore the region better, but at the time the lateral opening seemed to me to be the better one. Her condition, however, is very good and she has gained in weight. The loss of weight which the patient had at each time when there were obstructive symptoms is very interesting, showing the lack of absorption of fluids and nourishment.

It is also interesting to note the hardened fecal masses found in the small bowel, some of which she vomited. The presence of these indicated the site of the obstruction, and had I recognized the fact, I would have made a median incision. The result, however, might not have been so fortunate.

INGERSOLL OLMSTED, M.B.

AT the special war examinations of the Royal College of Surgeons and the Royal College of Physicians, held October 9th and 10th, the following Canadians were admitted members of both colleges: Lyle John Cameron, Manitoba University and London Hospital; William John Cook, McGill University and London Hospital; Robert Owens Fisher, Toronto University and Middlesex Hospital, and Arthur Baker Le Mesurier, Toronto University.

ERRATUM

IN the October number of the JOURNAL on page 872, thirteenth line from the top, Crum Brown, of *Boston*, should read Crum Brown, of *Liverpool*.

Editorial

INTESTINAL STASIS

IN these days of scientific advertising we are forced to admit that the man who has a good sound article is repaid a hundredfold by using scare headlines and bringing it insistently before the public. By flaunting it before the common gaze even a second class article is assured of large sale until such time as the public has weighed it and found it wanting. Members of our profession are at last coming to learn the lesson taught by the vendors of proprietary medicines, and to recognize that a new idea in diagnosis, or new method of treatment must be pushed powerfully if it is to be rapidly taken up. It used to be said that ten years elapse before any material advance in medicine becomes accepted by the profession at large. Sir Arbuthnot Lane himself can adduce valuable observations and deductions which, made by himself in the eighties and published after the old style in highly respectable periodicals, gained no general recognition, were in fact buried until altering his tactics he took to propagandism and shouting his wares from the (strictly medical) house tops. Now, thanks to the new methods, everybody knows of Sir Arbuthnot Lane, his doctrine and his methods, nay, more, is apt, through no fault of his, to give him (as pointed out by Dr. Max Einhorn) the credit for pioneer work accomplished by others, such as Glénard and Metchnikoff, men upon whose observations his own advance has been based. Perhaps, after all, this is as it should be: it is not the discoverer who deserves the fuller meed of appreciation and gratitude from his fellows, but he who so applies the discovery as to make it of prime benefit to humanity. Some years before Lister's work on the subject, the powerful antiseptic properties of

carbolic acid had been very fully studied and recorded (in our frailty we have forgotten to whom we owe the observations) but Lister it was who demonstrated how it should be employed, and to him is the credit and the glory. It will be recalled, by the by, that ten years and more elapsed before Lister's great advance became generally accepted.

How is it going to be with the gospel according to Lane? Is he advertising a first class or a second class article? In this number we publish the full-dress debate held at the St. John meeting of the Canadian Medical Association. Judged from that it is evident that the time is not ripe for arriving at a decision. This much is clear, that everybody admits the existence of cases in which fæcal retention is the cause of serious trouble, especially when that is due to organic as distinct from functional obstruction. Most medical men, physicians as well as surgeons, will accept Dr. Primrose's thoughtful presentation of the case and cautious conclusions. This is equally clear, that everybody does not accept Sir Arbuthnot's gospel of short-circuiting as a remedy for most of the ills that afflict our race. As regards the large bowel, it is becoming increasingly evident that the view of Metchnikoff and Lane that this is merely the common sink of the economy, and so a useless encumbrance, cannot be accepted. Dr. Elder's recommendation that where obstruction exists, the effort must be made to cut off the minimal amount of bowel, is one that must gain approval. So also, judging from the recorded cases, there is force in Dr. McPhedran's contention that, save where obvious signs of obstruction are present, medical treatment while long, is after all no longer in securing good results than is surgical. In other words it is significant how large a proportion of cases of removal of adhesions, and even of short-circuiting, fail to attain satisfactory results, and require a second and third operation.

Thus while enthusiasm is good, here as always it has its dangerous side, and has to be guarded against. Lane has done excellent service in calling increased attention to the

train of evils which may follow obstinate constipation, and to the treatment of the same. Undoubtedly good results must follow the fuller study of this subject. The danger lies in diagnosis and operation based on imperfect data, and here the *x-ray* expert, too often inexpert, shares responsibility with the surgeon. There is surely something wrong when Lane regards as pathognomonic the presence of bismuth in the terminal portion of the ileum seven hours after its ingestion, and when Dr. Cole finds that 98 per cent. of all the cases examined by him show bismuth still in this region at this period. There is still abundant work to be done both clinically and pathologically before this matter of intestinal obstruction, its etiology, and its results can be placed upon a right basis.

But ye gods! Dr. Cole! Where is your feeling for the language you employ to express your thoughts, when with evident enjoyment you besprinkle every other line or so of your communication with such words as "roentgenology" "roentgenograms," "roentgenologic," "roentgenographically," "roentgenocinematographically"? Away with them! Or is it that your name is but a transliteration of "Kohl"? This windy terminology, and habit of repeating, reminds one of "*crambe repetita*"; although your prenomens do not seem to bear this out. We are not Germans, nor does our language permit such monstrous centipedal hybrids: if we sought revenge, we well might be impelled to label your crime as *coleocacography*,* How would that please you? And what, pray, in accepted anatomical language is the "cap"?

IMPERIAL RECIPROCITY

THE following resolution was adopted unanimously by the Medical Faculty of Queen's University on October 23rd:

"Whereas a number of physicians registered in Ontario

*Of course from *coleo*, *cultum*—I cultivate (from which is derived "Kultur"), *kakos*—bad, *graphein*—to write, or otherwise, the faulty writing of a cultivated man, and his preference for a bad style, the introduction of German constructives into a literary language.

have volunteered for imperial army medical service and have not been accepted because the Ontario qualification is not recognized in Great Britain,

"Resolved, that in the opinion of the Medical Faculty of Queen's University the time is opportune to establish reciprocal relations between the General Medical Council of Great Britain and the Medical Council of Ontario, and

"Resolved, that the Faculty suggest to the officers and Executive of the Ontario Council that a special meeting of the Council be held at the earliest possible moment to deal with this important matter."

This is a question that has been agitating the profession in Ontario the past few weeks. It is not yet known what action, if any, the Ontario Council will take. The status of Ontario military surgeons serving with the Canadian Expeditionary Force is not involved, but only that of the physicians who offer their services directly to the War Office. At the present time the licencing bodies of four of our provinces, namely, Prince Edward Island, Nova Scotia, New Brunswick and Quebec, have reciprocal relations with the General Medical Council of Great Britain, by virtue of which their licentiates can register in Great Britain without further examination and, conversely, anyone holding British qualifications can register in these provinces. It does not, of course, necessarily follow that because the arrangement has worked satisfactorily in these instances, it would be to the interests of Ontario and the western provinces to adopt it. Conditions are somewhat different. There can be no doubt that when, some years ago, reciprocity was in force between Ontario and Great Britain, it gave rise to such abuses that the former was obliged to abrogate the arrangement. In particular, many Ontario students who found it inconvenient or impossible to fulfil the requirements of their own Council, successfully sought a loop-hole or short cut to the licence by taking out British qualifications. Whether there would be a repetition of the abuses at the present time is for the Ontario

physicians to decide. The matter is of greater importance to them than to the War Office, which has more pressing business on hand. Should the emergency demand it, the Ontario Council will doubtless find a way out of the difficulty. Whatever may be done, or left undone, if it hastens the logical development of the Dominion Council into the sole licencing body of the country, the agitation will not have been in vain.

THE WAR AND THE WOUNDED

THE first contingent of the Canadian Expeditionary Force has arrived safely in England and is undergoing a further period of training preparatory to leaving for the front. Another contingent of 10,000 men will follow, and the recruiting is proceeding rapidly; in fact applications are coming in so quickly that it is doubtful whether all those who now volunteer will be able to go with the next contingent. Arrangements are being made, however, to continue the training of troops after the embarkation of the next contingent and until the cessation of hostile activities. It is understood that 10,000 men will leave about the end of December. But it is not sufficient to send the men; provision must be made for the care of those who are wounded or fall ill from exposure and hardship. With exclusion of the Russian and Austrian armies, there are more than two millions now fighting in Europe. The loss of life and the number of wounded must be enormous, greater than in any previous war, not only because of the numbers participating but because of the deadly perfection of the modern invention; and from experience in former battles it is to be expected that the sick and wounded will number at least 20 per cent. of the armies engaged in conflict, probably more. In the South African war, the British invalided 73,977 men out of an army of 325,000, which means that in the next few months there will be 400,000 sick and wounded soldiers in the armies taking part in the

European war. This percentage among the British troops may be decreased somewhat by the general inoculation against typhoid fever, but whether the same precaution has been taken in the other armies is uncertain, and as every wounded man becomes a subject for medical attention no matter what his nationality, the treatment may have less effect upon the numbers requiring medical care than might have been expected.

The Canadian government has provided that 2,090 beds shall accompany the first two contingents; about half of these have been sent with the troops now in England. That is, provision has already been made for two general hospitals each with 520 beds, two stationary hospitals each with 200 beds, one clearing hospital with 200 beds, and three field ambulances each with 150 beds. The personnel of medical officers, nurses, orderlies, drivers, and cooks will number about 1,100.

The work of the Army Medical Corps is largely supplemented by the Red Cross. In addition to the splendid work that is being accomplished by this society both in England and on the battlefield, a Paris branch of the British Red Cross Society has been formed under the direction of Dr. Leonard Robinson, Mr. Stanhope, and Dr. Bernard Harrison. Five hospitals have been organized in Paris, and the wounded are brought to them from the field hospitals. The Canadian Red Cross Society has already transmitted \$50,000 to the Central British Committee at London and lesser sums have been sent by local branches in the Dominion. In addition, supplies of every possible nature have been forwarded, and donations are solicited in order that the supply of such things as are needed may be continued.

A great loss has been sustained in the death of Colonel Jeffrey Hale Burland. Colonel Burland had identified himself very closely with the work of the Canadian Red Cross, and it was in great measure due to his efforts that the Quebec branch of the society was established in 1912. He was recently

appointed Red Cross Commissioner, and the news of his sudden death, which occurred in London shortly after his arrival there, was received with profound regret. Colonel Burland was a man of boundless energy and enthusiasm. He was a splendid organizer and was held in the highest esteem by rich and poor alike, and his loss will be very keenly felt. Dr. C. A. Hodgetts, of Ottawa, succeeds Colonel Burland as Commissioner of the Canadian Red Cross, and he has proceeded to England. He will carry with him the confidence of the whole community.

THE VANCOUVER MEETING

THE profession in Vancouver has taken up with enthusiasm the task of preparing for the next annual meeting. A large committee of active workers has already been organized. They are determined to make the occasion an assured success. Dr. W. D. Brydone-Jack is chairman of the Committee of Arrangements, and Dr. Frederick Brodie, 718 Granville Street, is secretary. Probably few of our members realize the great amount of hard work that devolves upon the local secretary in the course of the long preparations for an annual meeting. Dr. Brodie, by his activities in the Vancouver Association, has proved his fitness for this responsible and exacting office. The date of the meeting has been fixed for July 6th, 7th, 8th, and 9th.

The general trend of travel next summer will be towards the West, owing to the attraction of the Panama Exhibition in San Francisco. Europe will offer few inducements to the holiday-maker, even if the situation there should clear more speedily than there seems reason to hope. The American Medical Association will meet in San Francisco the second week in June, and consideration was given to a suggestion that our meeting should be so arranged that both could be conveniently attended. But it was wisely decided that a June meeting would probably be too early for the majority of

Canadian physicians, who seldom take their holidays before July. The Edmonton meeting three years ago did much to strengthen the position of the Association in Alberta and Saskatchewan, and the attendance was very gratifying, amounting to nearly three hundred, of whom about one-third travelled from the East. Vancouver has become one of the largest cities of the Dominion, and its medical facilities have kept pace with its growing commercial importance. The personnel of the profession in the Pacific province, under the able leadership of Dr. McKechnie, the president-elect, is of itself a guarantee that the Association will receive a hearty welcome next summer, and will enjoy a profitable meeting.

THE Canadian central branch of the Red Cross has transmitted the sum of \$50,000 to the British Red Cross Society. The Winnipeg branch has sent \$10,000, the Vancouver branch \$2,137, and the Ottawa branch \$2,000.

THE Bremerman Sanatorium, an institution devoted exclusively to urological surgery, is to be established at Potash Sulphur Springs, Lawrence, Arkansas. There will be a capacity of one hundred beds. Dr. Lewis Wine Bremerman has been appointed surgeon-in-chief.

A COURSE of lectures is to be given by Dr. L. Duncan Bulkley at the New York Skin and Cancer Hospital on Wednesday afternoons during the months of November and December. The lectures will be free to the profession on presentation of their professional cards, and each lecture will be preceded by a half hour clinical demonstration of dermatological cases. The subjects to be treated of are, nature of cancer; frequency and geographical distribution of cancer; metabolism of cancer; relation of diet to cancer; medical treatment of cancer; and clinical considerations and conclusions.

THE campaign against cancer is yet to be fought. In England and in the United States much is being accomplished to educate the people to the danger of procrastination. With our present knowledge, the only cure is prompt operation and before this is possible the lay public must realize that suggestive symptoms, however slight, must receive immediate attention, particularly in persons over forty-five years of age. In Canada and the United States, over eighty thousand deaths occur each year which are attributable to this disease and in 1913, in Canada alone, more than seven thousand persons died from cancer. The matter is considered in the August number of the *Health Bulletin*, issued by the Toronto Department of Public Health, and the facts there given should help to convince its readers of the importance of consulting a physician immediately any symptoms are discernible and before the onset of pain.

A LETTER has been received by Dr. Adami, of McGill University, from Dr. Alexander M. Burgess who, some months ago, was obliged to give up his work as pathologist at the Montreal General Hospital on account of the strain upon his eyes brought about by microscopic work. Dr. Burgess, who is now practising in Providence, Rhode Island, writes: "I have heard indirectly that a number of my friends are already in Europe and I hope that it will not be long before they are on this side of the water again. If we were not Americans we would certainly wish to be British, for we all feel that England's cause is most righteous. If any Montreal doctor wants an American to care for his practice while he is away there are several of us here who would be glad to get the opportunity."

THE reception hospital for persons suffering from mental defect, which has been established in the grounds of the old General Hospital at Toronto, was declared ready for occupa-

tion in August. The hospital is under the direction of the provincial secretary's department, and is in charge of Dr. Harvey Clare, the medical superintendent of the Queen Street Hospital. The regulations provide that non-alcoholics showing symptoms which necessitate observation shall be committed to the reception hospital, but the transfer of such persons shall not be made in the prison van. Should a patient be found to be not insane, or should the case be unsuitable for treatment, the person responsible for the admittance shall be charged at the rate of \$1.00 a day for maintenance. The duration of treatment in the reception hospital shall not exceed sixty days. If certified insane, the patient shall be transferred to one of the provincial hospitals for the insane.

THE pages of history teach us that a close connexion exists between the time of war and the time of scarcity. Since war with all its horrors is upon us, the provision of food supplies becomes of unusual interest. The *Breeders' Gazette* of September 23rd, published in Chicago, contains a letter written by Mr. George T. Burrows, of England, which makes the somewhat astounding statement that "meat can be kept in a frozen state for no less than eighteen years and can then be honestly and openly guaranteed as good for human consumption." It should be noted that throughout this period the beef was kept at practically the same temperature. Last July a hindquarter of frozen beef that had been shipped from Australia in February, 1896, was exhibited in London. It was sold to Messrs. Wills and Company, of Malta, who retained it in cold storage until it was sent to the government warehouse, London. "The meat, although somewhat faded in appearance, was found to be still sweet and sound and had lost but little if any of its nutriment." These findings were corroborated by Dr. S. Rideal, the food inspector to the London Meat Importers' Association, who undertook a scientific test of the meat in question. He found that it had

undergone remarkably little change, that the beef tea extracts obtained were very similar to those obtained from fresh beef, and that the dietetic value of the meat had not been impaired.

THE annual report of the Orillia Hospital for the Feeble-minded for the year ending October 31st, 1913, has now been published. Seventy-two admissions—thirty-seven males and thirty-five females—were made; the discharged numbered three, and the deaths sixty-one, the latter being largely attributable to an epidemic of pneumonia during the winter. The institution was filled to its utmost capacity and constant demands for admission were made during the year. The accommodation is being increased by the addition of a cottage capable of holding two hundred women patients. This building is almost completed and it is the intention that a similar building shall be erected for men patients. If this is done, the institution will consist of a main building and four cottages and will be able to receive one thousand two hundred patients. The main building, with its accommodation for four hundred patients, will then be used as a training school for boys and girls ranging in age from six to fifteen years; it has been observed that the most marked improvement is manifested between the ages of ten and fifteen and the industrial training of such children has met with great success. The girls spend a good deal of their time in needlework and, though of low mentality, some of them produce beautiful work. The boys are employed outdoors, and in mat making, weaving, and basketry. Excellent results have been obtained from the work done in the pathological laboratory and Dr. Evans is now engaged upon a series of Wassermann tests, the results of which should prove of great interest.

Book Reviews

A TEXT-BOOK OF MILITARY HYGIENE AND SANITATION. By FRANK R. KEEFER, M.D., Lieutenant-Colonel, Medical Corps, United States Army; professor of military hygiene, United States Military Academy, West Point. 12mo of 305 pages, illustrated. Cloth \$1.50 net Philadelphia and London: W. B. Saunders Company. 1914. Canadian agents: The J. F. Hartz Company, Limited, Toronto.

The moment for the appearance of such a book as this is most opportune, and a copy should be in the hands of every soldier who is able to read and takes an interest in his own health: for the health of the individual is after all, the health of the camp. The author is professor of military hygiene in the United States Military Academy at West Point, and every statement which he makes has been tested in the field. The book cannot be recommended too highly, and we desire in the strongest possible way to call it to the attention of the military authorities. It is quite true that many of the measures urged by Dr. Keefer were in operation at the Camp at Valcartier, but a reading of the book would inform the soldiers of the vital necessity of those measures and encourage their unquestioning compliance with the rules that are laid down for their own safety and for the efficiency of the force.

INTERNATIONAL CLINICS. Edited by HENRY W. CATTELL, A.M., M.D., and others. Volume II. Twenty-fourth series, 1914. Philadelphia and London: J. B. Lippincott Company. Canadian Agent: Chas. Roberts, Montreal.

One always takes up a fresh volume of International Clinics with interest; at least that has been the experience of the present reviewer for the past twenty years, and one is never disappointed. The articles are fresh and timely, and are always well written. In the present volume there are twenty-three studies by as many contributors and the subjects which are dealt with cover the whole range of medicine. In these clinics one is accustomed to look for scientific sobriety. To this the last article must be considered as an exception. In the opinion of the present reviewer, the article by Maria Vinton on the teaching of sex hygiene is vicious in its

tendency. It is a complete illustration of the indecency, immorality, and obscenity which is being spread abroad under the guise of science and education.

PUBLIC HEALTH LABORATORY WORK. By HENRY R. KENWOOD, M.B., F.R.S., D.P.H., F.C.S. Sixth edition, with illustrations. Price, 10s. net. London: H. K. Lewis, 1914.

Kenwood's "Public Health Laboratory Work" comes with unflinching regularity in edition after edition, until now the sixth is reached. The section on bacteriological work has been omitted, as the wants of students in that department are otherwise provided for. The book remains, however, as always, a sure guide to the chemical division of laboratory practice. The author proceeds on the sure ground of selection as the result of experience.

BLOOD PRESSURE: ITS CLINICAL APPLICATIONS. By GEORGE W. NORRIS, A.B., M.D., assistant professor of medicine in the University of Pennsylvania. Octavo, 372 pages, with 98 engravings and 1 coloured plate. Cloth, \$3.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1914.

From the handsome dedication to this book, it would appear that the author in earlier life had suffered from an illness, and in a large measure owes his life to the skill, and self-sacrifice, and professional care of a colleague to whom the book is dedicated. These personal matters might well be omitted from a scientific treatise; for this book is scientific, and deals scientifically with all the machinery which is now existant for estimating blood pressure. But books upon this and kindred subjects are so manifold that one likes to get to the heart of the matter at once and can well spare quotations from the Fathers. "Experiment is not sufficient, experience must verify what can be accepted or not accepted: knowledge is experience."—"*Felix qui potuit rerum cognoscere causas.*" These truisms might well be taken as already having been said.

During the past few years the subject of blood pressure has received much attention, and it has not yet been reduced to order. The matter is by no means so simple as it would appear, and much study is yet required before the significance of blood pressure is established. Dr. Norris quite properly points out that one-third of all cases of well-marked peripheral arteriosclerosis have normal or sub-normal pressure; and again, that a careful observer failed to find cardiac hypertrophy in more than one-third of all cases of

marked atherosclerosis. Extensive patchy atheroma is not consistent with extreme longevity, and it by no means follows that, even if the radial artery shows extensive changes, the more vital arteries and arterioles are therefore correspondingly involved. Dr. Norris is well aware of these phenomena, and whilst he has recorded the facts and explained the method of making such records, he has not gone too far in making generalizations from them. The great value of this book lies in this, that it will suggest excessive care in drawing inferences from mechanical readings of the various appliances for registering blood pressure. The book is quite new, and is deserving of most critical study by those whose confidence is yet intact as well as by those who are beginning to suspect that blood pressure alone is a dangerous sign to trust to.

DIETETICS: OR FOOD IN HEALTH AND DISEASE. By WILLIAM TIBBLES, LL.D., M.D., L.R.C.P., M.R.C.S., L.S.A. Octavo, 627 pages. Cloth, \$4.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1914.

The title of this book is not attractive, as the number of books bearing the same title is legion, and we think that the author lays unnecessary stress upon the subject. He deems it of such importance to mankind, that he would have a professor of dietetics in every university and medical college throughout the world, and he would give to the subject the same prominence in the curricula of the medical student as is given to materia medica and therapeutics. He bases this doctrine upon experience in colleges of agriculture, where prominence is given to the study of animal and plant foods. "If such knowledge," says Dr. Tibbles, "is deemed of importance to the breeder of animals and grower of grain and fruit, surely it is of no less importance to the physician who has the care of the human body." The truth is that a study of animal and plant foods is of no value whatever to the breeder or the farmer. The best animals have been bred, and the best crops have been raised, by men who possessed no information whatever upon these matters excepting that which was drawn from experience and tradition. The normal man knows better than any physician what food is suitable for his needs. The human organism is not standardized, and one man's meat is another man's poison. Even if we admit, with the author, that life consists of a series of changes in the protoplasm, these changes are too swift and too subtle to be recognized by any of the machinery at our command. It is not the common experience that the person who reflects most upon his

diet is the most healthy one. Indeed too much reflexion would vitiate the value of any diet no matter how scientific it is. A man is not a body alone: he is a mind as well. And yet this book contains upon the subject all that is contained in similar books, and much more. The author is an enthusiast, and he has gathered together everything which pertains to the subject. He has made it a matter of record, and has presented it in a form so well classified that it is easily accessible.

A HANDBOOK OF FEVERS. By J. CAMPBELL McCLURE, M.D.
London: Shaw and Sons, 1914.

Dr. Campbell McClure, the author of this book, is a graduate of Glasgow and physician to at least three hospitals in London, therefore he has a double claim in appealing to an audience. This work, as the author informs us in the preface, pretends to be nothing more than a handbook for the use of students and general practitioners. Accordingly, he has confined his attention to the more superficial, yet none the less important, aspects of the diseases under consideration, but he has devoted ample space to the treatment of them. The book is admirably suited for the purpose for which it is designed. The material is contained within small compass and is arranged in proper sequence. By every test which we have been able to apply to this work, it would appear to be quite authoritative and in accord with the best practice.

APPENDICITIS: A PLEA FOR IMMEDIATE OPERATION. By EDMUND OWEN, F.R.C.S., D.Sc. Bristol: John Wright and Sons, Limited, 1914.

If this plea for immediate operation in cases of appendicitis were in the hands of every practitioner and if it were acted upon, countless lives would be saved. The profession is under a deep debt of gratitude to Mr. Owen for having put forward this plea with the whole weight of his authority. A physician who advises immediate operation is never wrong. One who delays may be wrong to the point of malpraxis or criminality. And if one asks what is meant by "immediate operation," the reply is operation "as soon as it is well nigh certain that the appendix is inflamed." Mr. Owen is saying nothing new, but the thing has never been said before with such definiteness and solemnity. Nothing brings so much discredit upon the profession as paltering with a condition whose treatment is agreed upon by all intelligent physicians.

Failure to operate at the moment a diagnosis is made is a sign of incapacity or ignorance on the part of the attendant. The book is dedicated simply, and properly, to Sir Frederick Treves, who did so much for surgery of the appendix some twenty-five years ago when the importance of it was just beginning to be understood.

ON DREAMS. By PROFESSOR DR. SIGM. FREUD. Translated by M. D. EDER with introduction by W. LESLIE MACKENZIE, M.A., M.D., LL.D. Price, \$1.00. London: William Heinemann. New York: Rebman Company, Limited. Toronto: McAlinsh & Company, Limited, 1914.

Freud's theory is that dreams are of the same tissue as other phenomena that are undoubtedly morbid. He takes the view that no conscious experience is entirely lost; what seems to have vanished from the current consciousness has really passed into a sub-consciousness where it lives on. His method of psycho-analysis is now quite familiar; in the present book he applies it to the interpretation of dreams and endeavours to prove that they are a manifestation of ordered mental experience. His theory of dreams is that they are very largely the expression of unfulfilled desire. In children the sleeping experience takes the form of the ungratified desires of the day; but as the mind grows older the dream expression becomes more intricate. These salient features are drawn from the singularly clear introduction which is written by Dr. W. Leslie MacKenzie, and it is so stimulating that one continues the reading of the book with avidity. Dreams form an important part of life, and it would be quite wonderful if at last they could be interpreted upon an intelligible principle.

PROGRESSIVE MEDICINE. Edited by HOBART AMORY HARE, M.D., assisted by LEIGHTON F. APPLEMAN, M.D. Volume XVI, No. 3. Price, \$6.00 per annum. Philadelphia and New York: Lea & Febiger.

"Progressive Medicine" still holds its place as a record of "advances, discoveries, and improvements in the medical and surgical sciences." In the present number the most important article is that by William Ewart, in which he treats of the diseases of the thorax and its viscera, including the heart, lungs, and blood-vessels, a comprehensive subject treated in a comprehensive way. Dermatology and syphilis is considered by William S. Gobbheil, obstetrics by Edward P. Davis, and diseases of the nervous system by William G. Spiller.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS G. COAKLEY, A.M., M.D. Fifth edition, revised and enlarged; illustrated with 139 engravings and 7 coloured plates. New York and Philadelphia: Lea & Febiger, 1914.

It is easy to understand why this book has so quickly been published in five editions. The author has done exactly what he set out to do, namely, "to provide a compact manual answering the needs of both students and practitioners. For these abundant instruction in examinations, diagnosis, and treatment is the thing; and Dr. Coakley has supplied just that.

A TREATISE ON DISEASES OF THE RECTUM AND ANUS. Edited by A. B. COOKE, A.M., M.D. and others. Illustrated. Price, \$5.50 net. Philadelphia: F. A. Davis, 1914.

The illustrations in this book are beautiful enough to be framed and hung in a drawing-room. Many of them are quite new, and the book is entirely so. We quite agree with the author that the volume contains the most authoritative teaching upon the subject, and that the various contributors are in essential agreement upon all important points. The author himself contributes the first sixteen chapters. Dr. Cooke writes from Los Angeles, and began the work as far back as the year 1895. During several years he was obliged to leave it at one side, and the responsibility for taking it up anew is laid upon the publishers. This is a responsibility which they may assume with the greatest of cheerfulness. If publishers had no heavier burden in their consciences and ledgers, they would be a happy lot of men.

A HANDBOOK OF PSYCHOLOGY AND MENTAL DISEASE FOR USE IN TRAINING SCHOOLS FOR ATTENDANTS AND NURSES AND IN MEDICAL CLASSES, AND AS A READY REFERENCE FOR THE PRACTITIONER. By C. B. BURR, M.D. Fourth edition, revised and enlarged; with illustrations. Price, \$1.50 net. Philadelphia: F. A. Davis Company, 1914.

The superscription of this book describes its purpose, and it only remains to be said that it adequately meets the need for which it is designed. It is only fair to add that the book is too modestly described. It is more than a means of reference for practitioners. It can be read in its entirety with pleasure and profit. Indeed the studies on symbolism in sanity and in insanity, on certain hysterical

states, based upon Freud's researches, are profound and illuminating.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume III, No. III. Octavo of 215 pages, 54 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Published bi-monthly. Price, per year: paper, \$8.00; cloth, \$12.00. Canadian agents: The J. F. Hartz Company, Limited, Toronto.

GENTLEMAN: "What's the matter with him?"

THE CLASS: "He's all right."

These are the opening sentences in "The Clinics of John B. Murphy," for June, 1914. Dr. Murphy as a surgeon is "all right." As a writer of "clinics" to be read—one may demur.

A CLINICAL STUDY OF THE SEROUS AND PURULENT DISEASES OF THE LABYRINTH. By DR. ERICH RUTTIN. Authorized translation by HORACE NEWHART, M.D. Illustrated. Price, \$2.00 net. New York: Rebman Company, 1914.

We do not share the hope of the eminent Professor Dr. Victor Urbantschitsch, who writes the preface to this book, that it will be entirely comprehensible to the non-specialist, but its value to the specialist is undoubted. To the Vienna school much is owing, and this work increases the obligation. The subject is important on its own account, and more so from the liability of an extension of inflammation from the labyrinth to the brain. The case reports, somewhat abbreviated from the original, are very instructive.

PRACTICAL HORMONE THERAPY. A MANUAL OF ORGANOTHERAPY FOR GENERAL PRACTITIONERS. By HENRY R. HARROWER, M.D., with foreword by PROFESSOR DR. ARTUR BIEDL, Vienna. Price, 15s. net. London: Baillière, Tindall and Cox, 1914.

A writer who has something new to present does not win favour by deriding medical scepticism. If in one instance the profession was wrong, in ninety-nine it has been right in maintaining such an attitude. "We all remember," says Dr. Harrower, "the storm of hilarious incredulity with which the first announcement of Roentgen's discovery was received." We remember nothing of the kind, and nothing of the kind occurred; but even if it did, we shall not swallow the hormone therapy or any other apart from its merit

with greater avidity. The introduction is the least attractive part of the book. Indeed, the book itself is extremely interesting, and brings together a vast amount of literature upon a new and complicated subject. The name itself is open to objection as the author admits, but no other has been found to indicate the "therapeutics of the ductless glands and internal secretions." We cannot agree that the use of "hormones in general practice is *terra incognita* to the majority of medical men" in this country at least. Dr. Harrower has brought to his task a great enthusiasm, and has spent an incredible amount of labour upon the literature of the subject. No book so complete upon the subject has appeared in English.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By EDWIN O. JORDAN, Ph.D., professor of bacteriology in the University of Chicago and in Rush Medical College. Fourth edition thoroughly revised. Octavo of 647 pages, fully illustrated. Cloth, \$3.00 net. Philadelphia and London: W. B. Saunders Company, 1914. Canadian Agents: The J. F. Hartz Company, Toronto.

Dr. Jordan is quite right. The study of bacteriology should find a place in every scientific course, and should not be confined to the medical faculty alone. We would go farther, and give it a place in the academic course as well. No man can successfully pretend to be educated, who is ignorant of this branch of science. It enters into life at every point, and has profoundly modified philosophic conceptions. For this purpose no better text-book could be desired. It has gone into the fourth edition, and that in itself is evidence of its value.

DISEASES OF THE RECTUM AND COLON AND THEIR SURGICAL TREATMENT. By JEROME M. LYNCH, M.D., professor of rectal and intestinal surgery, New York Polyclinic. Octavo, 583 pages, with 228 engravings and 9 coloured plates. Cloth, \$5.00 net. Lea & Febiger, Philadelphia and New York, 1914.

It is a singular phenomenon that the books which deal with uncleanly organs are in themselves the most sumptuous and beautiful. The present volume is no exception. It is done in Messrs. Lea & Febiger's best style of printing, binding, and illustration; and surgeons who practise this specialty will find much of interest in its pages. The entire field has been covered, and the operator

is amply warned in advance of the difficulties which he is likely to encounter—difficulties which, of course, can only be dealt with by his own resourcefulness. Details are not overlooked. Indeed, there are very full directions for the preparation of the patient, the after treatment, and for dealing with complications.

THE SENSORY AND MOTOR DISORDERS OF THE HEART. By ALEXANDER MORISON, M.D., F.R.C.P., senior physician to the Great Northern Central Hospital; physician in charge of heart cases to the Mount Vernon Hospital, London. Two hundred and sixty-one pages, with illustrations. Price, \$2.50. Toronto: McAinsh & Company, Limited.

The English school has taken the heart for its own. As a result of their labours the opinion of the sensory and motor disorders which affect that organ has entirely changed, and the treatment of them has been much modified. Since the remarkable studies of James Mackenzie were published the whole medical profession has approached heart problems with fresh interest. Dr. Morison is following a sound tradition which the English school has made its own, and by his various writings he has done his share in perpetuating it. The results of his investigations are contained in this book. It is a brilliant achievement.

STAMMERING AND COGNATE DEFECTS OF SPEECH. By C. S. BLUEMEL. Volumes I and II. New York: G. E. Stechert & Company, 1913.

The condition known as stammering is at length receiving the attention it deserves at the hands of physicians. This change for the better is largely due to the persistent efforts of Dr. Makurn, of Philadelphia, who has brought his theories on the subject to the test of experience, and demonstrated by success that his theory and practice were sound. This book in two volumes by C. S. Bluemel is the most ambitious work on the subject, which has yet come under our notice, and it investigates in detail all the systems which have been devised for the remedy of this troublesome defect. Any individual system is, as the author points out, usually an arbitrary and adventitious thing. He has accomplished the desire of Schulthess, expressed nearly a century ago, that some one would embody in a single book all known systems applicable to the treatment of stammering.

Books Received

The following books have been received and the courtesy of the publishers in sending them is duly acknowledged. Reviews will be made from time to time of books selected from those which have been received.

GUIDING PRINCIPLES IN SURGICAL PRACTICE. By FREDERICK EMIL NEEF, B.S., M.L., M.D. Price, \$1.50. New York: Surgery Publishing Company, 1914.

DISEASES OF BONES AND JOINTS. By LEONARD W. ELY, M.D. Illustrated. Price, \$2.00. New York: Surgery Publishing Company, 1914.

DISEASES OF THE RECTUM AND ANUS. A PRACTICAL HANDBOOK. By P. LOCKHART-MUMMERY, F.R.C.S. London: Baillière, Tindall and Cox, 1914.

THE PRACTICAL MEDICINE SERIES COMPRISING TEN VOLUMES OF THE YEAR'S PROGRESS IN MEDICINE AND SURGERY, UNDER THE GENERAL EDITORIAL CHARGE OF CHARLES L. MIX, A.M., M.D., and ROBERT T. VAUGHAN, Ph.B., M.D. Volume IV, Gynecology, edited by EMILIUS C. DUDLEY, A.M., M.D., and HERBERT M. STOWE, M.D. Price, \$1.35. Volume V, Pediatrics, edited by ISAAC A. ABT, M.D. Orthopedic Surgery, edited by JOHN RIDLON, A.M., M.D., with the collaboration of CHARLES A. PARKER, M.D. Price, \$1.35. Volume VI, General Medicine, edited by FRANK BILLINGS, M.S., M.D., and J. H. SALISBURY, A.M., M.D. Price, \$1.50. Price of series of ten volumes \$10.00. Chicago: The Year Book Publishers, 1914.

MEDICAL AND SURGICAL REPORTS OF THE HOSPITAL OF THE PROTESTANT EPISCOPAL CHURCH IN PHILADELPHIA. Volume II. Philadelphia: Press of Wm. J. Dornan, 1914.

BLOOD PRESSURE: ITS CLINICAL APPLICATIONS. By GEORGE W. NORRIS, A. B., M.D. Cloth, \$3.00 net. Philadelphia and New York: Lea & Febiger, 1914.

DIETETICS: OR FOOD IN HEALTH AND DISEASE. By WILLIAM TIBBLES, LL.D., M.D., L.C.R.P., M.R.C.S., L.S.A. Cloth, \$4.00 net. Philadelphia and New York: Lea & Febiger, 1914.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS G. COAKLEY, A.M., M.D. Fifth edition, revised and enlarged; illustrated with 139 engravings and 7 coloured plates. New York and Philadelphia: Lea & Febiger, 1914.

THE CLINICS OF JOHN B. MURPHY, M.D. Volume III, No. 3. Octavo of 215 pages, 54 illustrations. Price, per year, paper, \$8.00; cloth, \$12.00, published bi-monthly. Philadelphia and London: W. B. Saunders Company, 1914. Canadian Agents: The J. F. Hartz Company, Limited, Toronto.

PROGRESSIVE MEDICINE. A QUARTERLY DIGEST OF ADVANCES, DISCOVERIES, AND IMPROVEMENTS IN THE MEDICAL AND SURGICAL SCIENCES. Edited by HOBART AMORY HARE, M.D. Volume XVI, No. 3, September 1st, 1914. Price, \$6.00 per annum. New York and Philadelphia: Lea and Febiger.

THE BRAIN IN HEALTH AND DISEASE. By JOSEPH SHAW BOLTON, M.D., D.Sc., F.R.C.P. Price, 18s. net. London: Edward Arnold, 1914.

A MANUAL OF PRACTICAL HYGIENE FOR STUDENTS, PHYSICIANS, AND HEALTH OFFICERS. By CHARLES HARRINGTON, M.D. Fifth edition revised and enlarged by Mark Wyman Richardson, M.D., in collaboration with others. Price, \$45.00 net. Philadelphia and New York: Lea & Febiger, 1914.

LOCAL ANESTHESIA: ITS SCIENTIFIC BASIS AND PRACTICAL USE. By PROFESSOR DR. HEINRICH BRAUN. Translated and edited by PERCY SHIELDS, M.D., A.C.S. from the third revised German edition. Price, \$4.25 net. Philadelphia and New York: Lea & Febiger, 1914.

DISEASES OF THE SKIN, INCLUDING THE ACUTE ERUPTIVE FEVERS. By FRANK CROZER KNOWLES, M.D. Price, \$4.00 net. Philadelphia and New York: Lea & Febiger, 1914.

Men and Books

BY SIR WILLIAM OSLER, BART., F.R.S.

XXV. "LOOKING BACK"—1889.*—That those of us in control of departments at its opening should have been spared to see this twenty-fifth anniversary of the hospital is a piece of singular good fortune. It is a small matter that I am not with you—

Where the greater malady is fixed

The lesser is scarce felt—

expresses my feeling in the present crisis. You all know how I would have enjoyed the reunion with so many so dear to me by the strongest ties that bind man to man—the same ideals in life, the same pride in a splendid heritage, and that sense of close comradeship enjoyed by men who have initiated a great work and have survived to see it successful beyond their wildest dreams.

The Johns Hopkins foundations were only grafts on the educational tree, grafts that would have withered had they not partaken of the root and fatness—to use a Biblical phrase—of its natural branches. Great biologists before Martin, great physicists before Rowland, great chemists before Remsen, great Grecians before Gildersleeve had had their day in America. It was not the men, though success could not have come without them, so much as the method, the organization, and a collective new outlook on old problems. They were gathered here from all parts to do one thing, to show that the primary function of a university was to contribute to the general sum of human knowledge. On the way they could teach and they had to teach what the fathers had taught, but this was only a means to a definite end, viz., in science and in arts to widen man's outlook so as to strengthen his dominion over the forces of nature. Individuals here and there for generations had had in this country these ideals, but never before a *studium generale*, a whole body of men gathered in one place to form a university. That part of the university which, with the hospital, forms the medical school has only had twenty-five years of existence, not a generation, a mere fraction of time in the long history of the growth of science, so that it seems presumptuous to claim any powerful influence on the profession at large. The feeling, however, is

* Remarks read for Professor Osler at the Johns Hopkins Celebration, 1914.

strong, too strong to be passed over, that the year 1889 did mean something in the history of medicine in this country. One thing certainly it meant, as originally designed by that great leader, Daniel C. Gilman, that the ideals of the men on this side of Jones Falls were to be the same as those of the men in the laboratories of North Howard Street, that a type of medical school was to be created new to this country in which teacher and student alike should be in the fighting line. That is lesson number one of our first quarter-century, judged by which we stand or fall. And lesson number two was the demonstration that the student of medicine has his place in the hospital as part of its machinery just as much as he has in the anatomical laboratory, and that to combine successfully in his education practice with science, the academic freedom of the university must be transplanted to the hospital. Again, it was not men, but a method, initiated in Holland, developed in Edinburgh, matured in London, and long struggled for here, but never attained until the Johns Hopkins Medical School was started.

And binding us all together there came as a sweet influence the spirit of the place; whence we knew not, but teacher and taught alike felt the presence and subtle domination. Comradeship, sympathy one with another, devotion to work, were its fruits, and its guidance drove from each heart hatred and malice and all uncharitableness.

Looking back, these are my impressions of the work of the Johns Hopkins Hospital.

But I must touch a personal note, and pay a tribute of affection to the men who helped to make my special clinic. In those early days of happy memories Booker and Harry Thomas in the dispensary sowed the good seed which has thriven so wonderfully in great new departments. Lafleur, Reese, Toulmin, Scott, Thayer, Hewetson, Simon, Hoch, Frank Smith and Barker helped to organize in those plastic first years our methods of work. No one feature contributed more to the development of the hospital than the presence in each department of a group of senior assistants. I look with a justifiable pride at the work of these men. In succession during my term, Lafleur, Thayer, Fitcher, McCrae, Emerson controlled the work and my indebtedness to them cannot be expressed in words. Always loyal and considerate, no chief ever had more devoted helpers. And we were singularly fortunate in our assistants, senior and junior. The list is too long to tell over. Many came from outside schools, but the spirit of the place soon came upon them. Scattered far and wide now in important posts

they know how my heart follows their work, and how proud I am of their success. To have more than thirty of one's "boys" actively engaged in teaching is to draw a big prize in the lottery of life, with which for solid satisfaction there is nothing to compare.

But shadows flit across the picture—dark memories of the men whose leaves perished in the green. Jack Hewetson we all loved, I as a son, Thayer and Barker and Frank Smith as a brother. There was a light in his blue-grey eyes that kindled affection in all who knew him. Meredith Reese, the first to go, stricken also with tuberculosis, left us with scarred hearts. Livengood, whose mental outfit promised a career of special brilliancy, met a tragic death in the Bourgogne. Lazear, who went from the clinical laboratory to join Walter Read, died a martyr's death in Cuba. Oppenheimer and Ochsner, men of great merit, died on duty in the hospital. John Bruce MacCallum, in intellect "the bright particular" among our students, lived long enough to snatch something from dull oblivion. Al. Scott, whom we all loved dearly, had a successful career in Philadelphia before the call came. And only recently we have to mourn two of our best—Rupert Norton was one of the finer spirits, only touched to fine issues in a suitable environment, and that he found here in the latter years of his all-too brief life; Otto Ramsay, who came to our clinic first, became one of the most successful teachers and practitioners in New England.

The Johns Hopkins Hospital illustrates the growth of an idea, represented by the founder, and the intelligent coöperation of different units. The foundation stones were laid by the adviser, John S. Billings, by Francis T. King, the president, and by the Board of Trustees. Under the wise guidance at first of President Gilman, then for long years of Dr. Hurd, the organization grew apace, and the hospital was made a fit habitation for patients by the work of Miss Isabel Hampton, Miss Rachel Bonner, and Mr. Emery. The medical staff has used the facilities thus afforded for the benefit of the public, in curing the sick, in studying the nature of disease, and in training men to do the same, with what measure of success we must leave to the judgement of posterity. To me at any rate there remains a precious memory of the years I spent at Baltimore, and an enduring pride that I should have been associated with the work of this hospital.

Retrospect

ABSTRACTS OF GERMAN LITERATURE

CONTINUOUS IRRIGATION OF BLADDER AND PELVIS OF KIDNEY.

By DR. E. HOLZBACH of Tübingen University. *Muenchener Medizinische Wochenschrift*, No. 21, 1914..

"There is a certain percentage of cases of post-operative cystitis that apparently cannot be avoided. Spontaneous micturition is often not possible in spite of all one can do, and catheterization of a non-functionating bladder, if continued for several days, is liable to end in cystitis. Even without catheterization the infrequently emptied bladder is prone to infection. These cases of stagnation cystitis which, according to our experience, are most obstinate are very apt to be followed by an ascending infection, pyelitis, paraureteritis, and so forth. If the cystitis has passed its acute stage without showing signs of improvement under the usual treatment of warmth, rest, much fluids and urotropin, one must consider local treatment, of which the best form is bladder irrigation. Now to irrigate a bladder several times a day is most unpleasant to both doctor and patient as well as being dangerous to the latter. To avoid this we employ continuous irrigation through a retention catheter. A double or two-way catheter is used with the inflow tube double the calibre of the other, and this is attached to an irrigator containing a 2 per cent. boracic solution. By reason of the narrow outlet tube the bladder is always kept distended and the folds obliterated, and the fluid may be maintained at a uniform temperature by using a thermos flask as an irrigator. The treatment may be continued from ten to fourteen days. For pyelitis a two-way ureteral catheter is introduced high up in the ureter of the affected kidney and continuous irrigation employed."

TESTING THE KIDNEY FUNCTION WITH CREATININ. From the Clinic of Professor Mueller of Munich. *Muenchener Medizinische Wochenschrift*, No. 16, 1914.

"The means of testing the functional capabilities of the kidney were originally almost wholly confined to the diagnosis of those

unilateral affections which occur in the realms of surgery. Now, however, we are beginning to realize that these tests are applicable to the field of internal medicine. The principle of the diagnosis of functional ability of the kidney is well known. One gives the patient certain substances which can later be demonstrated in the urine, and observes how quickly and in what quantity they are excreted. The substances commonly in use for this purpose are of two classes. (1) Substances which under the usual conditions of life are not found in the urine, that is which are foreign to the body. (2) Constituents of normal urine. Those of the first group, foreign bodies such as dyes, salicylic acid, milk sugar, and so forth, have the advantage that they are easily demonstrated in the urine, and also that it is not necessary to diet the patient during the test; but they also have disadvantages, the chief of which being the fact that the kidneys of different individuals exhibit different capabilities regarding the excretion of the same foreign body. On the other hand if one uses a normal urinary constituent one can ascertain the behaviour of the kidney with regard to one of its daily exercises. A functional test with one particular substance would not be sufficient, of course, to determine the organ's complete functional capacity, which is not to be considered as a single function but a series of separate functional capacities for different substances such as water, salts, urea, uric acid, creatinin, and others. It has been repeatedly shown that one or more of these excretory processes may be deranged without much affecting the others. Witness for example cases where the sodium chloride output is normal while the nitrogen-containing bodies are suppressed. In practice it is impossible to make a complete estimation of the different excretory capacities; nevertheless one must not on this account abandon the tests, but estimate the functional capacity of the kidney for some substance which is easy to demonstrate and which is least altered by the changes in the kidney. In our opinion the substance of choice is creatinin. The amount of creatinin in the urine of healthy individuals varies from .8 to 2.4 gm. It is only slightly dependent upon the kind of food taken, and only in the event of excessive ingestion of meat is the creatinin output slightly increased. For this reason the employment of a uniform diet is not necessary during the test. A further advantage is that the test is simple, consumes but little time, and can be made with small quantities of urine. We perform the test as follows. The urine must be collected for three consecutive days as will be described. The diet is as usual except that large amounts of meat

and fluids must be avoided. At nine o'clock in the morning of the first day of the experiment the bladder is emptied. The urine for the next twenty-four hours is collected, mixed and measured, and the creatinin content estimated. Divide this by four to get the average six-hour output. At nine o'clock in the morning of the second day the patient is given 1.5 gm. creatinin dissolved in sweetened water to the amount of about 100 cc. The urine is then collected in six-hour periods for twenty-four hours. At the conclusion of each period the bladder must be emptied. If there is some special objection to waking the patient in the night the third and fourth periods may be taken as one. The creatinin content of each period is then estimated. By comparing the results of examination of the second day periods with those of the first day the eliminative capability for creatinin can be ascertained. It is not strictly necessary to carry the examinations over the third day but it gives one a better control. In healthy individuals one finds in the first six-hour period of the second day a marked increase in the creatinin output as compared with the average period of the first day: as a rule an increase of as much as .9 to 1.2 gm., corresponding to 60 to 90 per cent. of the ingested creatinin. In the second period there should be 8 to 30 per cent. excreted, and in the third period the amount should nearly correspond with that of the average six-hour period of the previous day. In the case of diseased kidneys the creatinin content during the first period of the second day shows only a slight increase, perhaps .3 gm. over that of the average period. The remaining creatinin may not be eliminated until the third day. Examination of patients with a high blood pressure but no signs of nephritis have in some cases shown a deviation from the normal, and the same is sometimes true of gout. Congestion of the kidneys also alters the creatinin content. In the case of unilateral diseases of the kidneys there is no alteration in the findings because the healthy kidney does the work of the diseased one. I had the opportunity of testing a case where one kidney had been removed because of an injury and found no deviation from the normal creatinin content. Of course if one can catheterize the ureters the test is extremely useful in these cases. The test may also be applied to the blood to determine the creatinin content as an index to the functional ability of the kidneys."

G. C. HALE.

London, Ont.

Obituary

DR. L. S. POULIN, of St. Alexandre, Quebec, died September 26th, in the seventy-first year of his age.

DR. A. W. BELL, of Winnipeg, died suddenly on October 7th. Dr. Bell was born at Markham, Ontario, August 18th, 1862. He took his medical degree at Trinity College, Toronto, in 1891. For some years Dr. Bell was assistant manager of the Toronto Industrial Exhibition and, in 1906, was appointed general manager of the Winnipeg Exhibition.

DR. J. I. WILEY, of Dresden, Ontario, died October 4th. Dr. Wiley, who was about fifty years of age, had been suffering from Bright's disease for some time. He was a well-known practitioner in Kent county and a few years ago was mayor of Dresden. He leaves a widow, two sons, and one daughter.

DR. A. L. W. WEBB, of Brighton, Ontario, died last September. Death was due to poisoning, Dr. Webb having accidentally taken some toadstools under the impression that they were mushrooms. Dr. Webb was the second son of Major A. C. Webb and was thirty-five years of age. He was a graduate of the University of Toronto and of the Ontario Medical College, and had been in practice in Brighton for about seven years. He was president of the Trent Valley Medical Association and was medical officer of health for the township and village of Brighton.

DR. DINGLE, of Oakville, Ontario, died September 18th, following an operation for appendicitis. Dr. Dingle was in the forty-second year of his age and had been in Canada only a few months. He graduated with honours from King's College, London, and before coming to Canada held the position of house surgeon in King's College Hospital. Dr. Dingle served as surgeon captain in the divisional hospital at Sydenham and at Bloemfontein during the Boer war. He leaves a widow and one son, three years old.

DR. GEORGE MITCHELL, of Wallaceburg, Ontario, died Octo-

ber 2nd, at the age of seventy-eight years. Dr. Mitchell was born in Watford and graduated from Bellevue Hospital in 1865. He went into practice at Wyoming and, in 1866, moved to Wallaceburg. Dr. Mitchell was ex-warden of Kent county and always took an active part in municipal affairs. He leaves a widow, one daughter, and two sons.

DR. JOSEPH A. CHARETTE, of Montreal, died September 18th, from injuries received when motoring; the car ran into a fence, turned turtle and Dr. Charette was crushed beneath it. Dr. Charette was forty-eight years of age. He leaves a widow and one son.

DR. M. R. MCGARRY died at Harbor View Hospital, North Sydney, on Wednesday, September 23rd, in the thirty-fifth year of his age. Dr. McGarry was born at Margaree and was a graduate of Dalhousie University. He had been practising as a surgeon at Florence for the past five years.

DR. JOHN R. RUTHERFORD, of Aurora, Ontario, died of pneumonia, September 24th, in the seventy-fifth year of his age. Dr. Rutherford had practised at Aurora for thirty-five years. He leaves a widow, two sons, and one daughter.

DR. J. M. SHAW, of Landsdown Village, Ontario, died suddenly September 23rd. Dr. Shaw was a graduate of Queen's University and was well known throughout Leeds county.

DR. JOHN HENRY BELL died suddenly in Liverpool, England, last September. Dr. Bell, who was surgeon on the White Star steamer *Adriatic*, was a graduate of McGill University and had practised for several years in Montreal. He was a brother of the late Dr. James Bell of Montreal.

DR. L. W. THOMPSON, who has been medical officer of health for Listowel and Wallace for the past twenty-one years, died from pneumonia on Sunday, September 14th. Dr. Thompson was in the sixty-first year of his age and had practised in Listowel since 1886. He leaves a widow, three daughters, and one son.

DR. STEPHEN GILLIS, of St. Louis, Prince Edward Island, died of typhoid fever at the Charlottetown Hospital on Wednesday,

September 16th. Dr. Gillis was twenty-nine years of age. He graduated from McGill University in 1910. He was a successful and popular physician and his untimely death is much regretted. He leaves a widow.

DR. MICHAEL R. MCGARRY died at Harbour View Hospital, North Sydney, Nova Scotia, on Wednesday, October 7th, in the thirty-fifth year of his age. Dr. McGarry was born at Northwest Margaree in 1880. After taking his B.A. degree at St. Francis Xavier College, Antigonish, he entered Dalhousie University where he graduated in medicine. He spent a year at the Victoria General Hospital, Halifax, and about five years ago went into practice at Florence.

News

MARITIME PROVINCES

THE department of public health of Nova Scotia recently issued a bulletin directing attention to the means by which typhoid fever is spread and emphasizing the necessity for taking precautions against the disease, especially at this season of the year. A leaflet containing instructions to those who have to nurse typhoid patients has also been published by the department and may be obtained free of charge from any medical health officer in the province, or from the provincial medical health officer at Halifax.

A CONTRIBUTION of \$1,000 has been made by the Ladies' Aid towards the \$8,000 to complete the proposed extension to the nurses' home of the Moncton General Hospital.

THE plans are being prepared for a hospital at Miramichi, New Brunswick. It is proposed to expend about \$30,000 on the building which, it is hoped, will be commenced early next spring.

At a recent meeting in the Teachers' Institute at Chatham, New Brunswick, it was resolved that "In the opinion of this Institute it is desirable that the board of education enact a regulation making compulsory the medical inspection of all school buildings and pupils." As yet there is no medical inspection of schools in the province of New Brunswick.

ONTARIO

A HOSPITAL is to be built at Timmins by the Hollinger Gold Mines Company. There is already a small hospital there but more accommodation is needed. The new building will contain thirty beds. Patients from the town and neighbouring mines will be admitted but the hospital is intended for men from the mines controlled by the Canadian Mining and Finance Company.

THE new wing of the Galt Hospital was formally opened on Friday, September 18th.

DIPHTHERIA has been prevalent in Ottawa during the past few months. During August 68 cases were reported.

SEVERAL cases of smallpox have occurred at Arva and at Proudfoot's Lane in the township of London.

A. T. COLVILLE, of Hamilton, was fined fifty dollars and costs on October 1st, for practising medicine at Mitchell under false pretences, as he is not a registered physician.

AT a meeting of the Hamilton Hospital board on September 29th, it was decided that the hospital staff should be increased to twelve and the by-law was amended accordingly. During the month of August 403 patients were in residence.

DR. GORDON RICE has been appointed to the position of divisional surgeon for the Ontario lines of the Grand Trunk Railway, in succession to the late Dr. Bruce L. Riordan.

IT is expected that the new wing of the St. Joseph's Hospital at London will be completed by next April.

DR. EDWARD WORTHINGTON, surgeon to H.R.H. the Duke of Connaught, left for England on Friday, October 9th, on his way to the front.

ARRANGEMENTS are being made to establish a maternity ward at the Owen Sound Hospital.

DIPHTHERIA is reported to be prevalent among the school

children at London and at St. Thomas. However, it has not been thought necessary to close the schools.

THE annual meeting of the McKellar General Hospital at Fort William was held October 9th. During the past year 1,902 patients were treated in the hospital, 122 births and 119 deaths occurred; the surgical operations numbered 705. The hospital is being enlarged and, in consequence of the building operations, it has been impossible to use the private wards or the obstetrical department during the last three months.

QUEBEC

It is announced that the French government has agreed to contribute \$15,000 a year to the proposed hospital at Maisonneuve. It is the intention that the Mont de la Salle, the present parent house of the Christian Brothers, shall be converted into a hospital for French citizens from Montreal, Maisonneuve, and the surrounding district. No decision has as yet been made as to when the hospital will be opened.

It is proposed to open free milk depots, with dispensary, in Montreal. In connexion with the depots, a department of dental surgery will be established where school children will be able to obtain treatment free of charge.

THE municipalities of the province are contributing towards the maintenance of a hospital which has been established, and equipped, in the Rue de la Chaise, Paris. The hospital bears the military number 47 and it is hoped that a sum sufficient to maintain it for five months will be subscribed. On this basis, each municipality is asked to contribute 750 francs, as each bed will cost five francs a day. It is proposed that each bed shall bear the name of the parish which contributed towards its maintenance. The provincial government has contributed \$10,000 towards the fund and it is intended that the money shall be used to maintain a ward containing seventy beds, which shall be named the Provincial Government of Quebec Ward.

THE dedication of the new hospital at Sherbrooke took place on the afternoon of October 9th. The hospital has been established at a cost of \$88,229. Dr. Bayne has been appointed house surgeon.

ALBERTA

Dr. FOLLINSBEE, of Edmonton, has been appointed resident house physician to the Great Ormonde Street Hospital for Sick Children. Dr. Follinsbee recently took a post-graduate course in London. Many vacancies have occurred on the staffs of the London hospitals, as so many of the resident physicians have left for the front.

Dr. JAMES FYSCHÉ, superintendent of the Edmonton General Hospital, accompanied the first contingent of the Canadian Expeditionary Force as captain of No. 1 general hospital.

THE following communicable diseases were reported in Calgary during the month of September. Diphtheria, 10 cases; scarlet fever, 23 cases; typhoid fever, 38 cases; measles, 4 cases; chicken-pox, 11 cases; erysipelas, 1 case; mumps, 5 cases; tuberculosis, 4 cases; anterior polio-myelitis, 2 cases. The total death rate from all causes per 1,000 of population was 9.3.

THE hospital by-law for \$10,000, which was submitted to the ratepayers of Wainwright, was defeated by a large majority.

THE annual meeting of the council of the College of Physicians and Surgeons of the province of Alberta was held September 21st. Among those present were Drs. Field, Malcolmson, R. G. Brett, John Park, F. W. Crang, F. H. Mewburn, E. G. Mason, and G. Macdonald. Approval was given to a vote of \$500 to the Academy of Medicine, of Edmonton, as this society has established a medical library in Edmonton, and has incurred an expenditure of \$700. The officers of the council for the year 1914-1915 are: president, Dr. G. H. Malcolmson; vice-president, Dr. E. G. Mason.

SASKATCHEWAN

It is reported that an epidemic of typhoid has broken out in Swift Current. It appears there has been a good deal of negligence in the matter of reporting cases of the disease.

Dr. B. L. WICKWARE has resigned from the position of Superintendent of the Moose Jaw General Hospital, which he has held for the past two years.

RATHER more than a year ago the Department of Indian Affairs decided to build a school and hospital on Fisher Island, about six miles from Le Pas. The island is occupied by Cree Indians and is situated on the Saskatchewan River. The formal opening of these buildings took place on Thursday, October 1st. The hospital will be in charge of Miss Jenner, of Chatham, Ontario, under the direction of Dr. R. D. Orok.

THE Saskatoon city health department has commenced a publicity campaign with the object of educating the public in the conservation of health. Each day a bulletin, treating of some question relating to sanitation and health, is issued and is posted in the street cars so that it may be brought to the notice of the public.

THE list of diseases, of the presence of which notice must be given to the medical officer of health, has been increased to include erysipelas, puerperal fever, and ophthalmia neonatorum.

PLANS have been prepared by the Commissioner of Public Health, to show the most suitable construction for a small hospital of about ten beds, which could be established at a cost of \$6,000. The plans will be forwarded to any municipality or official desiring the same, upon application to the Commissioner.

BRITISH COLUMBIA

A HOSPITAL was opened recently at Summerland. The site was given by the Summerland Developing Company and the building will accommodate from thirty to thirty-five patients.

MEDICAL COLLEGES

Alberta University.

EIGHTEEN students have registered in the first year of the faculty of medicine at the University of Alberta. It will be remembered that this course was given for the first time last year. This session the second year's work and a new course in pharmacy are offered for the first time.

A meeting of the staff and student body was held on Thursday, October 1st, and it was decided to organize a military unit and to form a contingent of the Officer's Training Corps.

Dr. Allan C. Rankin, bacteriologist for the province of Alberta,

and professor of bacteriology in the university, accompanied the first contingent of the Canadian Expeditionary Force.

Dalhousie University.

THE number of first year medical students who have registered at Dalhousie this session is thirty-four, inclusive of dental students. As yet no one has been appointed to the Chair of Pathology.

McGill University

THE opening of another session in the McGill Faculty of Medicine has resulted in the enrolment of one hundred and ten freshmen. The students in the other years are all back with the exception of some half a dozen who have gone to the front. The annual sessional lecture in medicine was given on Monday, October 5th. The proceedings were opened by Dr. Birkett, the new dean of the faculty. The subject of the lecture, which was given by Dr. Thomas Lewis, of London, was "Syncope of cardiac origin." The annual university lecture was delivered by Professor G. R. Mines, who has been appointed to the Joseph Morley Drake Chair of Physiology. Professor Mines is an M.A. of Cambridge University, and before coming to McGill he worked under Dr. T. G. Brodie, professor of physiology in the University of Toronto. Professor Mines spoke on "Science and individuality."

The Graduate's Society of McGill University has issued a statement which reviews the causes that led up to the present war, the conditions which the war has created, and the measures by which McGill men can give assistance,—by financial aid, by public speaking, or by volunteering to go to the front. A McGill regiment has been formed in order to give the men of the university, and in some cases their relatives and friends, an opportunity of fitting themselves to defend their country and of gaining a knowledge of military tactics. It is not intended that the regiment shall volunteer for active service as a whole, but it is expected that many of those now under training will go to the front, probably in companies composed of Canadian university men. It is hoped that it will be possible to train and equip one thousand men and for this purpose the Graduates' Society expects to raise \$50,000. Every consideration in the way of fees and time allowance will be given to those students who go to the war and, in the case of medical students, clinical experience gained in the hospitals at the front will be counted as part of their training. Similar arrangements have been made by the Quebec College of Physicians and Surgeons.

Keen regret was felt throughout the university when it became known that Dr. A. Campbell Geddes, professor of anatomy and commander and organizer of the McGill battalion, was to leave for England to take up his duties at a recruiting station at Hull. Before leaving, Dr. Geddes was presented with a travelling bag by the class of '18 as a mark of their esteem.

At a meeting of Corporation, which took place October 21st, approval was given to an offer made by the faculty of medicine to furnish the staff for a general hospital for service at the front.

Queen's University.

THE registration of medical students at Queen's University is about the same as last year. There are seventy-six in the first year class. Dr. A. H. Lothrop, formerly of Columbia University, has been appointed professor of biological chemistry. He will supervise all the chemical classes for medical students. During the summer applications were invited for appointments as assistant professors in physiology and in bacteriology and public health. Owing to the war, however, these appointments have been deferred.

Dr. A. E. Ross, M.P.P., professor of medical jurisprudence, has gone overseas with the first contingent, in charge of the first ambulance corps. A number of medical students are with Dr. Ross, among them Kenneth, son of Dr. Mundell, professor of surgery. Dr. Ross was with the Canadians in the South African campaign. In association with the general military activity of the students an ambulance corps has been organized among the medical students under the management of Surgeon Major Etherington and Dr. W. T. Connell. Dr. W. G. Anglin and Dr. E. Ryan have volunteered as civil surgeons for work at a base hospital.

At the recent convocation the honorary degree of LL.D. was conferred upon Dr. R. S. Thornton, of Deloraine, Manitoba, president of the Medical Council of Canada, in recognition of his services in the establishment and organization of the Council, and to mark the nationalization of the medical profession. Dr. Thornton addressed the students upon the advantages attached to securing the Licentiate of the Canada Medical Council.

The following degrees were recently granted by the Medical College of Queen's University: Degree of M.B., F. W. Burden, St. John's, Newfoundland; J. M. Laframboise, Ottawa. Degree of M.D. and C.M., W. S. T. Connell, Kingston; A. G. Kane, Kingston; C. C. Ligoure, Port of Spain, Trinidad; J. W. Saunders, Georgetown, British Guiana.

University of Toronto.

With great regret the University of Toronto has accepted the resignation of Dr. J. B. Leathes, professor of pathological chemistry, who has been appointed to the Chair of Physiology in Sheffield University. He will remain in Toronto until Christmas. His successor has not yet been appointed.

The military fever is at white heat in the university, and it is expected that practically every medical student will join the Officer's Training Corps. It begins to look as if the university as a whole will easily have more than two thousand students drilling three afternoons in the week. All laboratories are closed promptly at four and professors are rivalling their classes in military ardor. President Falconer addressed the student body as a whole on Tuesday, October 20th, with the result that, so some of the "medicals" expressed it, "no self-respecting student could fail to join the recruits."

Canadian Literature

ORIGINAL CONTRIBUTIONS

The Canadian Practitioner and Review, October, 1914:

- | | |
|--|----------------|
| How Toronto controls her milk supply . . . | H. Lloyd. |
| Chemical explanations of uræmia . . . | J. B. Leathes. |

Dominion Medical Monthly, October, 1914:

- | | |
|--|---------------|
| The use and abuse of the obstetric forceps . . . | B. P. Watson. |
|--|---------------|

The Western Medical News, September, 1914:

- | | |
|---|---------------|
| The acute abdomen | J. M. Elder. |
| Report of a spontaneous rupture four and
one-half to five months gravid bi-
cornate uterus. Operation followed
by conception of the other horn . . . | G. A. Wright. |

The Canadian Journal of Medicine and Surgery, September, 1914:

- | | |
|---|------------|
| St. John's Meeting, Canadian Medical
Association | J. Hunter. |
|---|------------|

The Canadian Journal of Medicine and Surgery, October, 1914:

- | | |
|--|--------------|
| The modern warfare against tuberculosis
as a disease of the masses . . . | S. A. Knopf. |
| The clinical congress of Surgeons of North
America, London, England . . . | J. Hunter. |

L'Union Médicale du Canada, October, 1914:

- | | |
|---|------------|
| Le traitement du rhumatisme chronique
par l'extrait de glande thyroïde, avec
observations | A. LeSage. |
|---|------------|

The Public Health Journal, October, 1914:

- | | |
|--|-----------------|
| Public health and the general practitioner | T. H. Whitelaw. |
| The use of rebipelagar in water and milk
examination | J. Race. |
| Standards with reference to sewage treat-
ment | T. Aird Murray. |
| Some difficulties of medical officers of
health in towns and rural communi-
ties | T. W. Vardon. |
| Conservation of child life | J. J. Kelso. |
| Sanitation of a military camp | F. L. Vaux. |
| Valcartier: An impression | G. D. Porter. |
| Contagious abortion in dairy cows and
the presence of the bacillus in the
milk | C. Evans. |
| Collection and disposal of refuse | F. J. Johnson. |

ESSEX COUNTY MEDICAL SOCIETY

THE following are the officers of the Essex County Medical Society elected for the year 1914-1915: honorary president, Dr. James Samson; president, Dr. James Gow; vice-president, Dr. W. J. Brien; secretary-treasurer, Dr. S. Ellis. During the absence of Dr. Ellis, who accompanied the first Canadian contingent, Dr. C. L. Fuller will act as secretary-treasurer. It was resolved unanimously that members of the Association should give their services free to the families of the men who have left for the front.

ACADEMY OF MEDICINE, TORONTO

PRESIDENTIAL ADDRESS

BY H. B. ANDERSON, M.D.

Associate Professor of Clinical Medicine, University of Toronto

IN the first place, permit me to express my deep appreciation of the honour of having been elected president of the Academy of Medicine for the current year. When one reflects on the manifold duties and responsibilities involved, he may well be pardoned some misgivings as to the wisdom of your selection. If, however, an abiding faith in the mission of the Academy and of its possibilities of usefulness to the profession of Toronto, and a willingness to do one's best to promote its welfare, will compensate for other deficiencies, I may hope to justify a claim to these qualifications. Until two months ago everything gave promise that this year should be marked by a continuance of the phenomenal progress which has attended the Academy in increasing degree each succeeding year since its organization in 1907. The increase in membership, now about four hundred, the growing attendance at meetings, the ready response from leaders of the profession, abroad as well as at home, to contribute to our programmes, the steady growth of the library and not least, the general recognition that we now have a strong and representative organization, which reflects the opinion and mobilizes the influence of the profession, are all gratifying evidences of our progress.

The rapid growth of the Academy, however, has produced problems, pressing for solution. Already our accommodation for both library and meeting purposes is greatly overtaxed. The council has considered the matter and has formulated a plan to submit to the Academy to make provision for these urgent needs.

Through the munificence of Mrs. Ross the means were provided for the erection of a beautiful auditorium as a memorial to our revered colleague and first president, the late J. F. W. Ross. This splendid contribution with others in sight, if supplemented by reasonable assistance from our own members, brought within view the realization of a building in Queen's Park worthy of our profession and city.

The sudden breaking of the cloud which has so long threatened our Empire and the peace of the world, however, has dislocated the affairs of our country, and turned the resources and energies of our people from peaceful pursuits to a struggle against a military despotism, for not alone our national existence, but for the cause of freedom and the future of civilization. These events have made it necessary that our plans for building shall be held in abeyance for the time being.

In this crisis, as in the past, our profession has stood ready to accept its share of sacrifice, not only in answering the call of duty in active service, but in contributing both time and money for the care of the needy dependents of our soldiers, and for the relief of the increased sickness among the poor of our city. Most of us will not have to face the dangers and hardships of active service, but the hearts and prayers of every Fellow will follow those of our colleagues, including the chairmen of two of our sections, who have gone, and they may be assured that each of us will consider it not only a duty but a privilege, to conserve as far as possible their interests during their absence.

This session we are unlikely to be favoured by visits from transatlantic colleagues, whose contributions to our programmes have been such a valuable feature of our meetings in past years. It is a great satisfaction, however, to know that we still have our good American friends to call upon, one of whom in the person of Dr. L. G. Cole, of New York, we shall have the pleasure of hearing to-night.

There is none among us who does not look forward with confidence to the time when "danger's troubled night depart" and peace with honour shall be again established. In the meantime there is no duty more important, no service greater, which those of us who remain at home can render our country, than loyally to uphold those institutions and interests committed to our special care.

May one go further, and express the wish that one among you more worthy had been in my place to say that this is an opportune time to rise superior to personal differences, jealousies or faction; to set aside all "ancient forms of petty strife," and emulating the spirit of political parties at home and abroad, to cultivate harmony and good-fellowship, and unite on the common ground of our interest in our institutions and the profession at large.

It is idle as it is undesirable, among independent, earnest and educated men, to look for uniformity of thought or opinion on all

questions which may arise, but let us respect to the fullest degree honest differences, and as university men, let us cultivate a spirit of freedom of thought and action.

Above all let our quarrels and differences, if any, be among ourselves and not unnecessarily aired in public, or submitted to the judgement of outsiders indiscreet enough to meddle in family affairs, or ready to deliver judgements on *ex parte* evidence.

It is customary on occasions such as this to select for consideration some topic of outstanding interest and importance to the profession, a retrospect perhaps of recent medical progress, an appraisal of present conditions or an outline of the prospect for the future. In the ordinary even tenor of our way the task is usually not a difficult one, but what of the present, when bloodshed and destruction is the one absorbing interest of civilized nations?

Never by contrast, however, was the nobility and humanitarianism of our own calling more strikingly exemplified—the one profession whose sympathies and interests extend beyond international boundaries, whose chief duty is to fight against disease, to conserve the health and lives of the people, even to mitigate the scourge of war itself by its merciful service rendered alike to friend and foe. This is certainly not the time to abate our zeal or slacken our efforts in furthering the beneficent influences of the art and science of medicine.

Apart from the rapid advancement which has characterized every branch of medicine in recent years, undoubtedly the outstanding feature of the period is the world wide movement to reorganize, to correlate and to amplify, the various institutions and agencies associated with our professional work.

In the field of medical education we have seen the old proprietary schools, which served well their day and generation, gradually replaced by the medical departments of universities; the standards for matriculation and graduation have been raised, the course of study lengthened and many new subjects have been added to the curriculum; and adequate provision has been made for the systematic teaching of the fundamental sciences in extensive and well equipped laboratories, under the direction of full-time professors.

A further tendency has been apparent during the past few years to separate medical education more widely from practice, to regard it as “primarily an educational and not a medical question.” The application of this principle has already resulted in radical changes in some institutions, where the professorships in medicine, surgery and other clinical branches, have been given to

men devoting all their time to teaching and research, to the exclusion of consultants or those otherwise giving a part of their time to private practice. Some authorities have gone even further, and advocate the displacement of the latter altogether as clinical teachers, because they believe it is impossible for men busy in practice to give the necessary time for the proper discharge of their academic duties.

Considering the amount of executive work thrown upon the head of a clinical department in a large medical school, such a limitation of his private work has apparent advantages, though in some institutions a more democratic plan has been adopted to distribute the burden, namely, by vesting control in a departmental committee instead of in one individual.

The adoption of a principle, nevertheless, which would place the education of medical students, especially in the clinical branches, exclusively or largely, in the hands of men deprived of the invaluable experience of consulting or private practice, must be viewed with grave misgiving by those who appreciate the responsibilities placed upon those whose duty it is to minister to the sick, and who know the necessity for not only a *thorough*, but a *thoroughly practical training*. The exclusion of men doing private work from clinical appointments, moreover, would appear a needless limitation of the power of our universities to select the most competent men, regardless of any arbitrary restriction of the field of choice; it would deprive those responsible for the treatment of private patients of important opportunities for keeping abreast with professional progress, and would tend to the development of a medical hierarchy, capable of maintaining their positions and status by controlling the facilities for advancement (provided at the public expense) instead of by the amount and character of work accomplished, under conditions wherein active competition is not only *permitted* but *encouraged* as far as possible.

In advising against the adoption of this principle, the Royal Commission on Medical Education in London points out "the grave danger against which practice is the best protection—the danger of forgetting the individual in the interest aroused by his disease." The financial burden involved by the limitation of clinical teaching to a class devoting itself entirely to this and research, however, makes the proposition at present impracticable and therefore of only academic interest, except in institutions where money has been specially provided for the purpose.

A glance at the hospital field reveals a similar activity, aimed

at bringing these institutions up to the requirements for modern clinical investigation, diagnosis, and treatment. In no place has evolution along these lines, especially in the provision of excellent accommodation for both private and charity patients, been more active than in our own city, where we now have buildings which compare favourably with those of any great medical centre in the world.

In America and Great Britain there has been a recognition of the necessity for radical changes in the organization of clinical departments in order to render effort more productive and to make provision for the practical application of recent scientific discoveries to diagnosis and treatment.

In some features of hospital work, we are still far behind the best Continental institutions. This applies especially to the organization of self-contained and independent clinics, each with its own wards, doctors, nurses and servants; with its own theatres, library, laboratories and equipment. This distinctive feature of the Continental system, as contrasted with the British, comes naturally with the former from the common custom of having different clinics in separate buildings or clinical institutes. The advantages of the independent clinical units, in fixing responsibility, in giving freedom in initiative and management, in permitting of the building up of each clinic along lines most suited for its special purpose, in avoiding friction and interference which paralyze action, and in providing generous rivalry, are very evident, and account in no small measure for their greater capacity to produce good team work.

Before the Royal Commission under the chairmanship of Lord Haldane, the inadequacy of the system so long in vogue in Great Britain, to meet modern requirements, was pointed out by many of the witnesses, Sir William Osler characterizing the existent conditions "as a legacy from a period when university ideals had not reached the practical side of our medical schools."

The necessity for considering these defects of organization applies to our own hospitals quite as much as to the British after which they are modelled. In no particular has the old system failed more conspicuously to meet the requirements of modern progress, than in the correlation of laboratories to the general clinical work of the wards. It is quite unnecessary to urge the essential importance of good laboratory work for the investigation, diagnosis and treatment of cases in the clinic.

Any serious consideration of the question must make it conclusive that laboratory examinations and investigations

are as much a part of the clinic as the use of the stethoscope or the speculum. The delegation of the laboratory work of the clinics to other departments—as pathology or pathological chemistry—can never be a satisfactory solution of the problem or productive of good results. Even the most imperfect attempt to meet the laboratory requirements of the clinics in this way, imposes on these departments an amount of detail work which must seriously interfere with their own special functions; it places laboratory investigations in the hands of those not intimately associated with the clinical problems to be worked out, and who, no matter how competent in their own spheres, cannot be expected to have a thorough grasp of all the clinical specialties; it deprives clinicians of both the incentive and opportunities for development as practical laboratory workers, or even to apply in a satisfactory way the results of scientific methods to the cases under their control; it results in a breakdown of the laboratory work of the clinic during holidays when ward-work must go on, though the college laboratories are more or less inactive; it detracts from the independence and dignity of the clinic and presents an insuperable barrier to a high order of intensive or special clinical effort.

I believe one may safely say that there is no matter so intimately related to the future development of our clinical work and the practical training of our students, as the provision of commodious and well-equipped laboratories in connexion with each clinic, for routine examinations, for teaching and for investigation.

I do not wish to be misunderstood as advocating a complete severance of the systematic work in the college laboratories from the applied work in the wards, but the relation should be consultative rather than executive. One need only consider the amount of work involved in the laboratory end of the clinical specialties, the special training required, the number of assistants necessary to accomplish the work, the fact that surgery, medicine, and other branches and their various sub-departments, all present different problems in equipment, technique, and direction, in order to grasp the impossibility of having this work carried out properly in other departments.

Every argument which can be so readily adduced in favour of the thorough training of students in the scientific departments during the primary years, hinges on the necessity for preparing them properly for the study and investigation of disease, when they later enter the hospital wards. It therefore follows that sufficient time and suitable facilities must be provided for the application of the

methods which they have learned, unless the chief purpose of their preparatory training is to be lost. Leaders in the scientific departments have been among the strongest advocates of this reform. Professor Welch, of Johns Hopkins, especially having urged the necessity for "the foundation and support of teaching and investigating laboratories connected with the clinics."

To what purpose, one may ask, does the young teacher spend years in the pursuit of laboratory methods, if he is to be cut off from applying his knowledge, and further developing himself, when once he passes from the systematic laboratories to the clinic? While one does not wish to appear as unnecessarily "emphasizing the obvious," the vital importance of this whole question is sufficient warrant for its careful consideration. Looking to the future, it appears plain that either clinicians must have the facilities for, and undertake the responsibilities of, the laboratory work of the clinics, or the laboratory men must assume control of the wards. Modern requirements are not met by the present separation.

Carlyle has said that "the end of man is an action, and not a thought, though it were the noblest." We have happily passed the period when we are satisfied with even an intimate knowledge of the work of others—by reading, thinking and talking of scientific medicine without doing. What is wanted now is the opportunity more than the stimulus to work—the conditions toward which the energies of our profession have striven, when our men might be able to join as active participants in the march of progress rather than continue as interested spectators. It has been said, with some warrant for the statement, that while our clinical staffs have discharged creditably their obligations to the sick, that they have as yet contributed little in the way of researches of scientific value. But surely if they have failed, it has been the failure of accomplishing the impossible, of attaining the end without means, of turning out the finished product before the erection, manning, organization, and equipment of the plant, rather than entirely from fault of the individual.

I should like, if time permitted, to refer to numerous other lines along which a rapid evolutionary process is taking place at the present time, such as the establishment of special institutions for medical research, the wonderful activity in the domain of public health, the popular crusades against tuberculosis, cancer, venereal disease, infant mortality, and occupational diseases; the legislative enactments in connexion with workmen's compensation and national insurance, all of them questions in which we are specially

interested and toward the solution of which we should use our influence.

It requires no prophetic vision to see the bearing of all these matters on the future of the medical profession. It can be said to our credit, that we have always been ready to sacrifice personal interest to the common good, so that whatever tends to progress is assured of our sympathy and hearty support.

There is unfortunately a disposition on the part of some to mistake mere novelty and change for progress; and of others, looking at a broad question from a particular angle, to overestimate the relative importance of one aspect of professional activity, usually their own, as compared with another. It is here that the steadying influence and hard common sense of the profession at large, whose theories have been tempered by the cool winds of practical experience, should make its influence felt, so that, while ready to try all things, we may hold fast to that which is good, at least until something better is at hand; and under all circumstances let us be assured that, come what may, the chief aim and object of our profession shall be kept steadily in view—the control and cure of disease.

But it must not be assumed that the future progress of medicine is bound up entirely in the activities of colleges, hospitals, research institutes, boards of health, and so forth. The important strategic position occupied by the general practitioner for attacking many of the problems of disease—for studying the initiation of disease, its course perhaps through many years, and its final outcome, has not been fully appreciated.

This aspect of clinical progress is dealt with in a masterly way in a paper by James Mackenzie, published in the *British Medical Journal*, January 3rd, 1914, and which should be read by everyone, especially by our younger men, who frequently undervalue the opportunities which general practice affords for scientific study. Coming from one, himself once a general practitioner, who has probably done as much as any other physician of our time to apply scientific methods to the elucidation of important practical questions, his words are worthy of our earnest attention; he says, "the general practitioner must be recognized as an essential adjunct in research. To him especially we should look to find out the early stage of disease and its progress. Hitherto the lack of this assistance has been the cause of the tardy advance of medicine."

There is no essential reason for lack of harmony, in work or aim, among the different branches of our profession. Friction means

dissipation of energy and lessened efficiency. Mutual support, sympathy and coöperation are essential to success. In the fight against disease, we represent different sections of one great organization, each with all-important duties—the laboratory worker and experimenter devising and proving new implements and methods, the hospital clinicians and specialists bringing forward that which is new and best withstands the test of application—thus keeping open the communications with the men on the firing line, the great body of practitioners, on whose training and efficiency, after all, victory ultimately depends. Our students are the recruits who must be imbued with the proper spirit and trained to take their places in the ranks depleted by the casualties of service and by the falling out of the veterans.

At the time of the International Medical Congress last year, a London paper in an editorial on "Our friend the doctor" expressed a layman's point of view in these appreciative words: "The discoveries of Lister, Pasteur, Metchnikoff and Ross—to name only a few—constitute an epic worthy of a Homer. The slow dragging of her secrets from nature, the discovery of the thousand unsuspected agents through which she works, is a fascinating study to those who understand it. The laboratory is the arsenal from which the hand of the physician and surgeon is armed. But it is the wise, experienced, tender man, the first to be called, and the last, too often, to be paid, of whom we common folk are thinking when we speak of 'the doctor.'"

Every intelligent medical man appreciates the indebtedness of modern practice to laboratory men, and disparaging remarks regarding the value of their work reveal the weakness of the critic more than of the object of his criticism. On the other hand practitioners generally will approve of Meltzer's candid criticism of a fortunately rare type of scientific prig, who affects a lofty disdain of everything practical and who thinks it more noble to investigate a dead rabbit than to attend a sick man. "The trouble with men trained exclusively in laboratories is two-fold: first, they do not seem to see that a medical fact observed critically by a capable physician deserves as much credence and consideration as a fact developed by laboratory methods; and secondly, the laboratory man offers positive opinions in a field in which he has no experience." We should remember, however, that clinical and laboratory knowledge are in no way antagonistic or mutually exclusive.

Among the other factors exercising an influence in the present forward movement, we must not overlook the importance of such

institutions as the Academy of Medicine. It provides every year an extensive and valuable course of postgraduate instruction; through it our younger men are given an opportunity—by presenting results of investigations or reports of cases, to establish themselves in the estimation of their *confreres*, who will not be slow to judge them by the quality of the work they bring forward; our senior men, in the seats of the mighty, are enabled to demonstrate that their places of trust and opportunity are worthily occupied, by presenting to the great body of practitioners composing the bulk of our membership what is latest and best in their several departments; our colleagues in the scientific departments to bring their investigations and discoveries before the men who can test out their value in practice.

The library, however, is the nucleus around which centres the life of the Academy. From the time of the Alexandrian School to the present, no great medical centre ever developed apart from good libraries. Osler has said, "it is hard to speak of the value of libraries in terms which would not seem exaggerated. To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients, is not to go to sea at all. For the teacher and worker a great library is indispensable. They must know the world's best work and know it at once; they mint and make current coin, the ore so widely scattered in journals, transactions and monographs." It should therefore be our steady aim to make this one of the great medical libraries of the world, and I believe many of us will live to see the day when this shall have been accomplished. It may be of interest to you to know that among medical libraries at present, we rank second in Canada, twenty-ninth on this continent, and seventy-sixth in the world.

To indicate the possibilities of growth, it is encouraging to know that when Dr. Billings took charge of the Surgeon General's Library at Washington in 1865, it contained less than two thousand volumes, while at present it has on file one hundred and seventy-five thousand five hundred and seven volumes, and its index-catalogue has a reference to every rare case that has been recorded since the discovery of printing, A.D. 1450. Our Fellows, through arrangements made in Washington and the deposit of a sum of money to cover insurance, by the late Dr. Ross, have the great privilege of being able to have access to books and references from this library by merely paying express charges.

We are now prepared, at request, to place at the disposal of our members any important journal, transactions, reports, monographs or text-books in which they may be specially interested.

An historical section of our library in which is collected documents relating to our history and development, biographies, autographs, photographs, hospital and health reports, journals, etc., should be started as soon as possible, before passing years render much material relating to our early days unavailable.

The erection of our new building will afford an opportunity for the descendants of the many notable members of our profession, who were so closely identified with the settlement and early development of Upper Canada, to appropriately commemorate their names and deeds in our common meeting place, and thus link up the history of the period in which they lived with the present. In this connexion it affords me much pleasure to say that a grandson of one of the early physicians of Toronto has set aside in his will the sum of \$10,000 to establish a lectureship in connexion with the Academy to be named after his grandfather.

The movement to organize the various city and district medical societies throughout the province and link them up with the Ontario Medical Association, and through it with the Canadian Medical Association, should receive our active support as a measure making for professional cohesion, and the increasing of our corporate influence in the community.

I cannot let the occasion pass without referring with deep regret to our losing the services of Miss Mason, who filled the position of librarian and secretary to the Academy so acceptably for a number of years. Her industry, devotion to duty, and unfailing courtesy, won the sincere regard and appreciation of all, and our best wishes will follow her in her new vocation. Owing to the increasing amount of work, the Council considered it necessary to separate the duties of librarian and secretary. The former has been placed in charge of Miss Charlton, who comes to us with a reputation established by many years' service in McGill Medical College, as one of the foremost librarians on the continent; the latter has been filled by the appointment of Miss Runciman, who already has given ample evidence of her fitness for the duties of the position.

It is our sad duty at this time, humbly to acknowledge that "the art whose province it is to heal and to save, cannot protect its own ranks from the inroads of disease and the waste of the Destroyer." Since we last met, one of our best known and most deeply esteemed Fellows and a member of Council has been called from his labours. Dr. Bruce L. Riordan was a big-hearted, generous friend, devoted to his calling, and his early death at the height

of his professional career is a great loss to our ranks and to the community he served so faithfully. To the widow and son we all join in expression of our deepest sympathy.

The medical profession of Toronto and the Province of Ontario since its foundations were laid a century ago by the old army surgeons, has exercised an influence on our political, educational, and social development, which stands as a lasting monument to the character, capacity and influence of its members. We have a noble heritage and it is our duty to see that it is transmitted to those who follow us, unimpaired in dignity, honour and usefulness.

Medical Societies

MONTREAL MEDICO-CHIRURGICAL SOCIETY

THE fifteenth regular meeting of the Society was held Friday, May 1st, 1914, Dr. D. F. Gurd, president, in the chair.

LIVING CASE: Short circuiting for fæcal fistula, by Dr. C. W. Archibald.

DISCUSSION: Dr. Bazin: The use of the fascial band is certainly ingenious. Dr. Archibald described this some time ago in closing off the pyloric ring in gastro-enterostomies: it works well there and should do equally well here. The necessity of short circuiting for fæcal fistula does not appeal to me when one can mobilize the bowel as freely as in this case. Unless the adhesions were very dense, there are other ways of relieving this condition. I should like to know how low down the fistula was and how much of the bowel was put out of circuit by the stoma and whether the fistulous area could not have been excised with anastomosis of the free ends.

CASE REPORT: Cases of renal calculi, by Dr. Wm. Hutchinson.

Cases of renal calculi may be divided into two groups: those in which the stone lies free in the renal pelvis, producing typical intense colic, and those in which the stone is impacted in the calices and in which renal colic is not present. Dr. Hutchinson reported several cases illustrating these two groups and exhibited the stones removed.

PATHOLOGICAL SPECIMENS: Drs. L. J. Rhea and A. T. Bazin.

1. Dr. Bazin: Sarcoma of the knee. Patient, a woman aged thirty-four, gives usual history of receiving, three months prior to

onset of definite symptoms, slight injury to the knee, in this case by the knee of a horse knocking against her knee. It gave her momentary pain but did not inconvenience her until, after the lapse of two weeks, she began to limp and found it increasingly difficult to straighten the knee; furthermore there were lightning pains at night and all the evidence of joint involvement. She was seen three months after the injury, no swelling, no effusion; painful on both active and passive motion. History of leucorrhœa, married thirteen months, no pregnancy. Weight extension employed. Shortly after this the knee began to swell. Admitted to hospital two months later with a very large swelling of the knee, decided flexion with much spasm of the flexor muscles. Swelling uniform and subcutaneous veins much enlarged. Patient emaciated, irregular temperature $99\frac{1}{2}$ - 100° . The x-ray plate taken on admission does not show anything definite, that taken three weeks later shows a considerable increase in size and the line of compact tissue of femur is broken both in front and behind; there is deposition of lime salts which masks the bone very considerably. Tuberculin and Wassermann were negative. Sarcoma was finally diagnosed and amputation performed for relief of pain. A recent report from the patient states that she is much improved in her general condition, weight and strength rapidly increasing, demonstrating that a toxin detrimental to health is absorbed from these rapidly growing sarcomata, the removal of which is good practice even though recurrence is certain.

Dr. L. J. Rhea; The specimen was frozen and sawed down through the centre. One sees in the lower part a large tumour which has involved the muscles and when one cuts through this there are small areas of lime deposit in it. It does not involve the shaft itself but, in places, the periosteum is destroyed; it has not extended through the outer table of the bone. This is interesting, not only from the large size and the diffuse infiltration without enlargement of the bone but in regard to the type of tumour itself. Histologically one sees that it is a sarcoma not of the clear type; there are areas of cartilage, spindle-celled sarcoma, and areas that are very myxomatous.

2. Sarcoma of the stomach. Dr. A. T. Bazin. Man, aged forty-four, admitted to hospital last summer under Dr. G. G. Campbell and transferred to surgical ward for operation. Had stomach symptoms for four months, vomiting, rapid loss of blood and strength. Skiagram eight hours after a bismuth meal showed most of the meal still in the stomach. There was a definite pyloric

stricture and a palable tumour. Operation was done simply to relieve vomiting and a posterior gastro-enterostomy performed. The growth was the size of a hen's egg. The man lived in absolute comfort as far as the stomach symptoms were concerned from June 13th until March 18th, when he died of asthenia. At autopsy the mass was the size of a foetal head, it had increased upon the anterior wall of the stomach more than upon the posterior; it overhung the stoma but left it absolutely clear.

Dr. L. J. Rhea: The tumour at the time of operation was near the pylorus and the stomach wall was adherent to the liver, and the tumour involved but a small area of stomach in comparison to what it does now. It is a very large carcinoma completely surrounding the stomach and the edges hang over very markedly like a cauliflower. Thus ten months after the operation one sees that the gastro-enterostomy wound is quite a distance from the tumour and is nowhere infiltrated by the tumour itself. We did not find any metastases in the liver.

3. Case of Addison's disease. Dr. L. J. Rhea: The case occurred in Dr. Lafleur's clinic. Tuberculosis of the adrenal, and, demonstrated in the apex of the lung, is the healed primary lesion. The adrenals were involved with caseous tuberculosis. The man was aged twenty-seven, ill only three or four days. Became acutely ill with high temperature not unlike typhoid; Wassermann negative. At autopsy he had miliary tuberculosis involving the spleen, liver, all abdominal organs, and the brain. The interesting point was in the adrenal, the left had no tuberculosis in it but the right was completely caseated and no adrenal tissue found. It was a tuberculosis of apparently long duration.

Dr. Rhea exhibited sections of these specimens.

4. Tuberculosis of the lungs, Dr. H. B. Cushing. Dr. Cushing exhibited a series of specimens of lungs from autopsies on children dying in the Children's Memorial Hospital of tuberculosis in some form or other.

The organs in the first case were taken from a child of one year dying of tuberculous meningitis; the child was in good health until the development of the signs of meningitis. The tissues of the mediastinum showed a mass of caseous tuberculous glands. The left lung had no caseous glands at the hilum and was normal throughout; the right had an old caseous tuberculous gland close to the branches of hilum and, on examining it carefully, in the base of the lung on the diaphragmatic surface there was a small fibrous and caseous mass, the so-called primary focus of the tuberculosis.

The organs in the next case were from a child of five, also

dying of tuberculous meningitis and showing no symptoms of tuberculosis before the meningitis developed. Again there was found a mass of caseous glands in the mediastinum, and again the largest glands and those more distinctly caseous were at the root of the right lung. There were a few scattered miliary tubercles throughout the lungs and the only old focus to be found was in the right lung, the size of a pea caseous and fibroid. Again in this case the glands at the root of the right lung were those most affected and in the middle lobe was a small, apparently old, focus.

The lungs in the next case were taken from a girl who died of tuberculous peritonitis. The father died of consumption. She was apparently in very good health before the peritonitis developed; afterwards the elbow became involved and the knee, and she finally died of the peritonitis. At autopsy again were found caseous peribronchial glands, more marked on the one side—in this case the left—and at the base of the left lung a small old focus again about the size of a very small pea.

The lungs in the last case were of a child dying of acute miliary tuberculosis. There was slight fever, and a short course of two or three weeks. The whole of the lungs were studded with miliary tuberculosis, as also the other organs of the body. Again there were caseous peribronchial glands and in this case was a small focus apparently older than the rest, again in the middle lobe on the right side.

These cases are from autopsies performed within the last two months and are consecutive ones and, I thought, would be of interest as illustrations of Ghon's theory of a primary focus of tuberculosis in the lungs of children.

DISCUSSION: Dr. L. J. Rhea: The question of finding an old focus of the lung at autopsy is simply a matter of taking time. I saw Gohn's collection of such old foci and some were represented by the very smallest scars; and I was informed that they spent hours in looking for these primary foci.

Dr. C. K. Russel: I would like to ask if Dr. Cushing's cases prove the argument that cases of tuberculosis in children such as these are air-borne and not from stomach or other processes.

Dr. H. B. Cushing: The prevalent theory is that it is air-borne, but the fact that the primary focus is in the lung does not decide that it is air-borne, the bacilli may have been carried there through the blood stream or lymphatics.

PAPER: The paper of the evening on appendicitis in tuberculous subjects was read by Dr. J. R. Byers of St. Agathe, Quebec (by invitation), associated with Dr. E. W. Archibald.

1044 THE CANADIAN MEDICAL ASSOCIATION JOURNAL

The Canadian Medical Association

Place of Meeting, 1915—Vancouver, B.C.

Honorary President—Sir Thomas Roddick, Montreal.

President—Murray MacLaren, St. John.

President-elect—R. E. McKechnie, Vancouver.

Vice-Presidents—Presidents of Affiliated Societies and the Presidents of Provincial Societies *ex-officio*.

Secretary-Treasurer—W. W. Francis, 836 University St., Montreal.

Local Secretaries are the Secretaries of Affiliated Societies and the Secretaries of Provincial Societies *ex-officio*.

EXECUTIVE COUNCIL

ASSOCIATION'S MEMBERS.

O. C. Dorman, Winnipeg.
W. W. White, St. John.
J. G. McDougall, Amherst.
A. I. Mader, Halifax.
J. Stewart, Halifax.
W. G. Anglin, Kingston.
J. F. Kidd, Ottawa.

A. McPhedran, Toronto.
A. Primrose, Toronto.
F. N. G. Starr, Toronto.
H. S. Birkett, Montreal.
J. A. Hutchinson, Montreal.
W. G. Turner, Montreal.
W. A. Thomson, Regina.

H. A. McCallum, London.

DELEGATES FROM AFFILIATED ASSOCIATIONS

Alberta—R. G. Brett, *ex-officio*, Banff; C. E. Smyth, F. W. Gershaw, Medicine Hat.

British Columbia—A. S. Munro, G. S. Gordon, Vancouver.

New Brunswick—G. C. VanWart, *ex-officio*, Fredericton,

J. S. Bentley, St. John; C. T. Purdy, Moncton;

Ontario—D. J. Gibb Wishart, *ex-officio*, H. B. Anderson, H. J. Hamilton, Toronto;

I. Olmsted, Hamilton; R. W. Powell, Ottawa.

FINANCE COMMITTEE

W. W. White,
H. S. Birkett,

F. N. G. Starr,
W. G. Turner,
J. Stewart.

J. A. Hutchison,
R. W. Powell,

STANDING COMMITTEES

ON MEDICAL LEGISLATION

A. T. Shillington, Ottawa (with power to add).

MILK COMMISSION

Chairman, Chas. J. Hastings, Toronto.

Secretary, J. H. Elliott, 11 Spadina Road, Toronto.

ON AMENDMENTS TO CONSTITUTION AND BY-LAWS

H. B. Small, Ottawa, Chairman (with power to add).

ON REPORTS OF OFFICERS

J. Halpenny, Winnipeg (with power to add).

ON NECROLOGY

J. H. Elliott, Toronto (with power to add).

ON MEDICAL EDUCATION

R. A. Reeve, Toronto, Chairman (with power to add).

EDITOR

Andrew Macphail, 216 Peel St., Montreal.

Assistant to the Editor, W. W. Francis, 836 University St., Montreal.